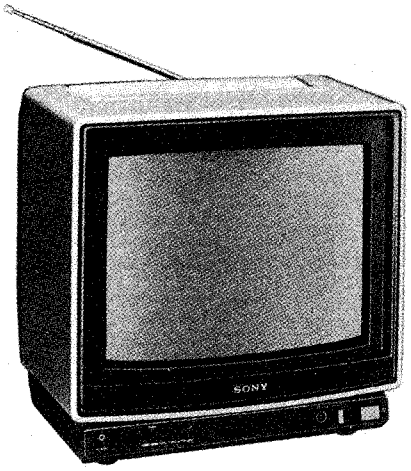
KV-1412EC
RM-635

SERVICE MANUAL

AEP Model

Chassis No. SCC-524D-A



December, 1983

XE-3 CHASSIS

SPECIFICATIONS

KV-1412EC	
Television system	CCIR TV standards (system B, G and H)
Color system	PAL
Channel coverage	VHF channels E2 - U20 (45 - 300 MHz) UHF channels E21 - E68
Programing system	30 programs Automatic programing digital tuning
Picture tube	36.8 cm, 90-degree deflection Trinitron system (33.7 cm screen measured diagonally)
Antenna	VHF/UHF telescopic antenna 75-ohm external antenna socket for VHF/UHF (DIN 45325/IEC 169-2)
RF AUX socket	Auxiliary RF input for one channel VHF channels E2 - U20 (45 - 300 MHz) UHF channels E21 - E68 75-ohm (coaxial type)
Speaker	9 × 5 cm
Audio output	1.3 W
Power requirements	220 V ac, 50 Hz
Power consumption	70 W (IEC) 11.5 W (in stand-by condition)
Dimensions	Approx. 364 × 354 × 427 mm (w/h/d)
Weight	Approx. 12.5 kg
Accessories supplied	Earphone ME-20B Remote Commander RM-635

MICROFILM

TRINITRON® COLOR TV

SONY®

CTV

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WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

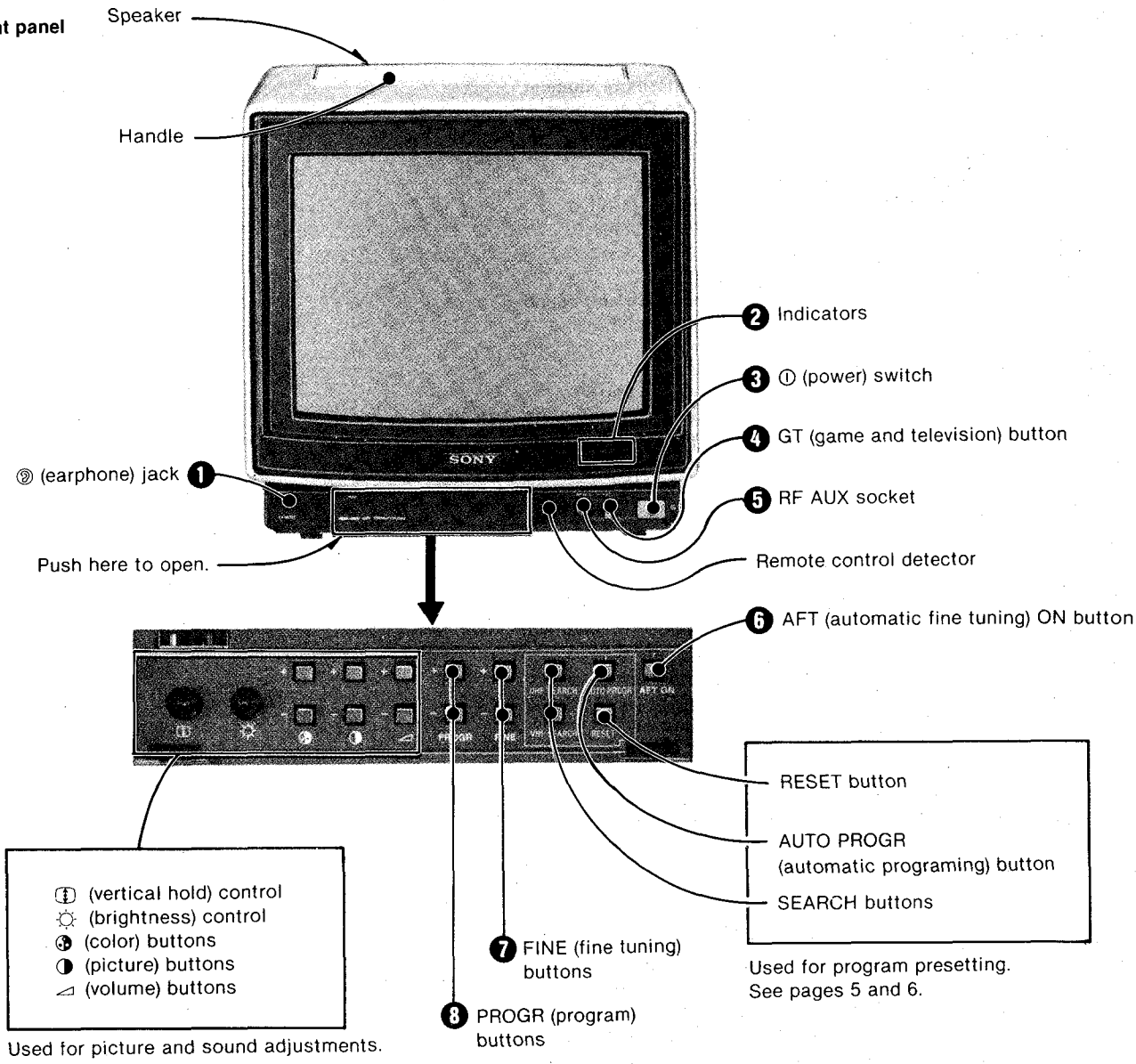
SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SECTION1
GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS

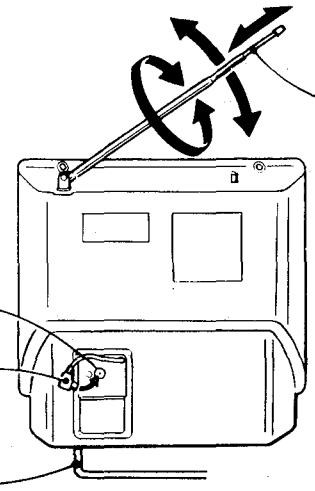
On the front panel



Used for picture and sound adjustments.
See page 8.

Used for program presetting.
See pages 5 and 6.

On the rear panel



Telescopic antenna
For optimum VHF and UHF reception, use this antenna. Adjust the length, direction and angle for the best possible picture.

VHF/UHF antenna socket
Connect the telescopic antenna plug here. If you prefer to use an external antenna, connect it here.

Telescopic antenna plug
Plug into the VHF/UHF antenna socket.

AC power cord
Connect to a 220 V wall outlet.

❶ ⓟ (earphone) jack
For private listening, insert the supplied earphone plug into the jack. This disconnects the loudspeaker. Adjust the TV volume to a proper listening level.

❷ Indicators
⏻ (standby) indicator (red)
Lights up when the TV is turned off with the Remote Commander. When any of the buttons on the Remote Commander is pressed, this indicator blinks.
RF AUX indicator (green)
Lights up when the GT button is depressed.
AFT ON (automatic fine tuning) indicator (red)
Lights up when the automatic fine tuning circuit activates.

❸ ⏻ (power) switch
Press to turn on the TV. Press again to turn it off.
When the TV is turned off with this switch, the picture and sound settings will be memorized.

❹ GT (game and television) button
To view the signal from the RF AUX socket, press this button.
The program 00 is provided for the RF AUX socket. To adjust the GT button to match the equipment to be connected, press the RESET button and then press the VHF or UHF SEARCH button.

❺ RF AUX socket (auxiliary input, 75-ohm coaxial type)
Connect an RF (antenna) output of a home video game, a microcomputer, or a portable video cassette recorder to this socket.

❻ AFT (automatic fine tuning) ON button
The automatic fine tuning circuit activates automatically after the stations are tuned and memorized in automatic and manual programing. In case you want to restore the automatic fine tuning on the channel which has been fine-tuned manually with the FINE buttons, press the AFT ON button.

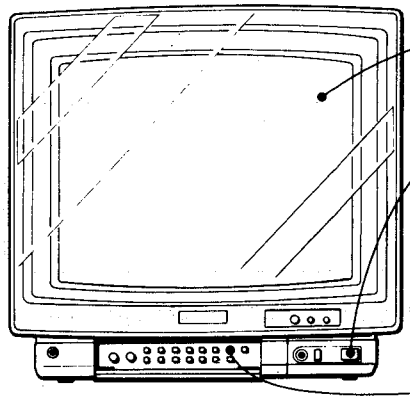
❼ FINE (fine tuning) buttons
Keep either + or − depressed to get a clear picture for each unsatisfactory channel. The automatic fine tuning circuit will be automatically deactivated on the channel fine-tuned with these buttons.

❽ PROGR (program) buttons
Press either + or − to select a preset program from positions 1 through 30. The selected program number will appear on the screen. Note that program 30 is "0" on the screen. Press + for higher-numbered programs, and − for lower-numbered programs. Programs will be changed continuously in a sequence. If there is annoying noise at an unused program position, eliminate it by pressing the RESET button.

1-2. PROGRAM PRESETTING

This TV has 30 program positions. Once you preset the programs broadcast in your area, program selection is simply made by pressing the + or – PROGR button on the TV or the hand-held Remote Commander.
Preset programs by following one of these procedures ; automatic programing or manual programing.

AUTOMATIC PROGRAMING



The program number will be indicated here.

1 **Depress ⏻ to turn on the TV.**

2 **Press AUTO PROGR button.**
Automatic programing will begin.
The first channel found will be memorized on program position 1, the second on position 2, and so on.

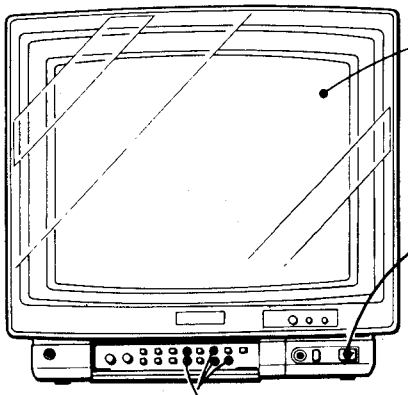
This tuning-memorizing sequence will be repeated for each channel in your area.
When no more channels can be found, automatic programing will stop, and the program preset on the first program position will appear on the TV screen.
The number "1" will light (not blink) on the TV screen.

After presetting has been completed, press the PROGR buttons to check the results of the automatic programing, referring to your local TV listings.

MANUAL PROGRAMING

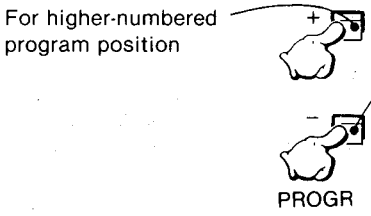
With the manual program search system, the channels you want can be preset in a desired sequence.
Any channel can be set to any program position. Consult your local TV listings to find out the active channels in your area.
Make a list of your desired VHF and UHF channels and arrange them in a desired sequence.

RESET button
If this button is pressed, the set will be automatically tuned to a frequency below channel E2.
If you want to skip a particular program position when scanning with the PROGR buttons on the Remote Commander, press the RESET button when the indicator shows that position.



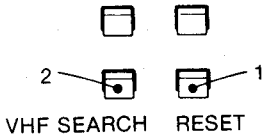
1 **Depress ⏻ to turn on the TV.**

2 **Press the + or – PROGR button to select the number of the program position to which the channel is to be preset.**



3 **Press the RESET button and then the VHF SEARCH or UHF SEARCH button.**
The first channel found will be tuned. Every time you press the SEARCH button, a higher-numbered channel is located, so press the button until the desired station received.

to locate a VHF channel E2 - U20



to locate a UHF channel E21 - E68

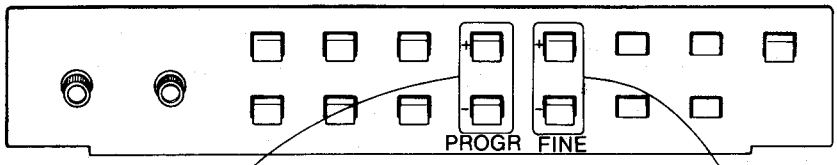
When the channel is tuned in and memorized, the program number stops blinking.

●In strong signal areas, tuning may sometimes stop between channels. If this happens, just press the SEARCH button again.

Repeat steps 2 and 3 for all the desired channels.

FINE TUNING OF A WEAK STATION

If you cannot obtain a clear picture on a particular channel, fine-tune that station manually with the FINE buttons.



1 Select the program to be fine-tuned with the PROGR buttons.

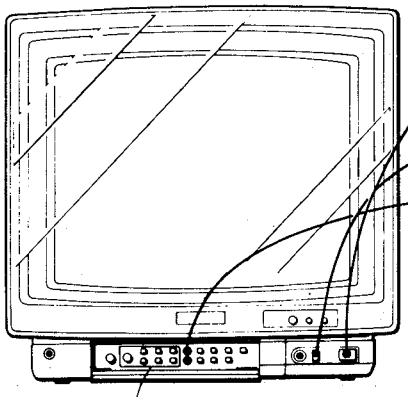
2 Keep the + or – FINE button pressed until a clear picture is obtained.

When either of the FINE buttons is pressed, the automatic fine tuning on the selected channel is deactivated and the AFT ON indicator turns off. To view the fine-tuned station, keep the automatic fine tuning deactivated (do not press the AFT ON button). When other memorized stations are selected, the automatic fine tuning activates automatically.

In case you want to restore the AFT on the channel which has been fine-tuned manually with the FINE buttons, press the AFT ON button. The AFT ON indicator will light.

1-3. BASIC OPERATION ON THE PANEL

INITIAL ADJUSTMENTS



1 **Depress the ⏻ switch.**

2 **If "00" appears on the screen, press to release the GT button.**

3 **Select the desired TV program.**

for higher-numbered programs +

for lower-numbered programs −

PROGR

The selected program number will appear on the screen.
To extinguish the program number, press the ⊡ button on the Remote Commander.
Then, each time you press the PROGR button to change the program, the indications on the screen will disappear in a few seconds.

4 **Adjust the picture and sound.**

for less brightness — for more brightness

+ for more color

for less color −

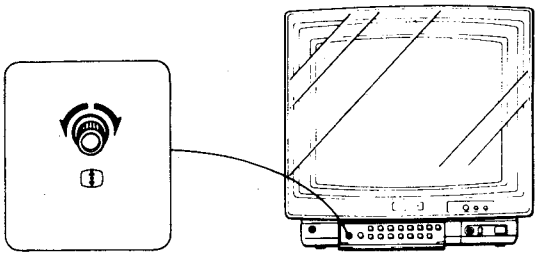
\+ to increase the picture contrast

to decrease the picture contrast −

\+ to increase the volume

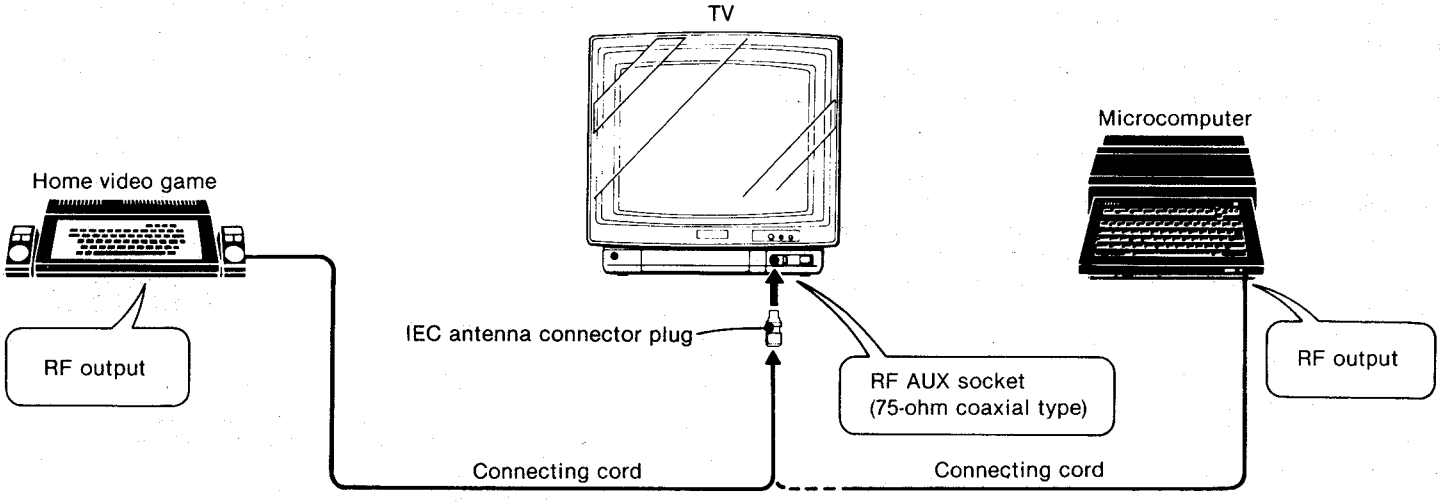
to decrease the volume −

If picture rolls vertically
Adjust the ⊡ control.



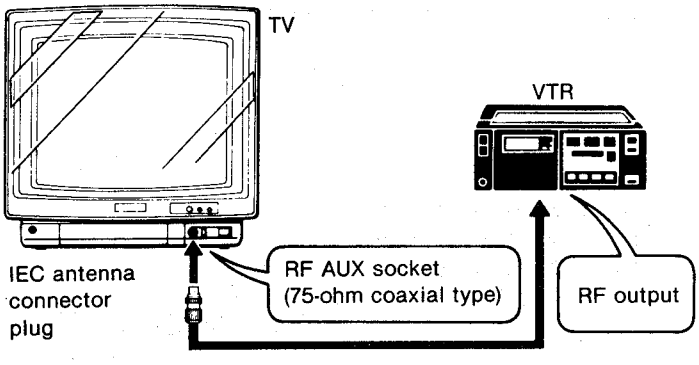
1-4. FRONT PANEL RF AUX SOCKET USAGE

CONNECTION OF A HOME VIDEO GAME OR MICROCOMPUTER



In case that the connecting cord has exposed wires rather than a plug, attach the supplied (or commercially available) connector plug. For details on the connection, refer to the instructions of the home video game or the microcomputer.

CONNECTION OF A PORTABLE VTR



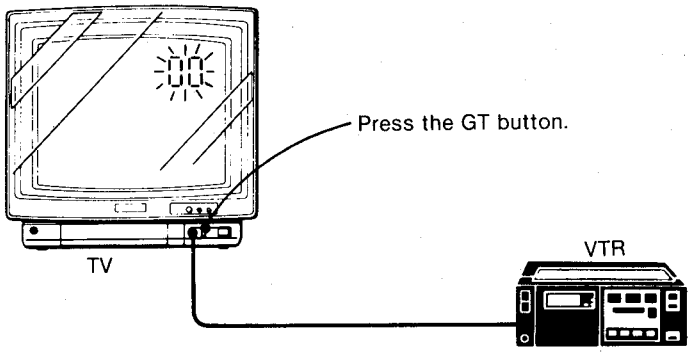
To record the TV program, connect the tuner timer unit (optional) to the antenna socket on the TV's back panel. For details on the connection, refer to the instructions of the portable VTR or the tuner timer unit.

NOTES

- The RF AUX socket is available for equipment that can deliver signal of VHF channels E2 through U20 and UHF channels E21 through E68.
- If the microcomputer has been placed on or too close to the TV set, noise will appear on the screen. Keep the microcomputer an appropriate distance away so that the picture appears clear.
- The picture quality obtained by connection to the RF AUX socket on the front of the TV and to the antenna socket on the back is almost the same.
- Keep a VTR away from the TV, if the display or sound is affected.

TO DISPLAY PICTURES FED THROUGH THE EQUIPMENT CONNECTED TO THE RF AUX SOCKET

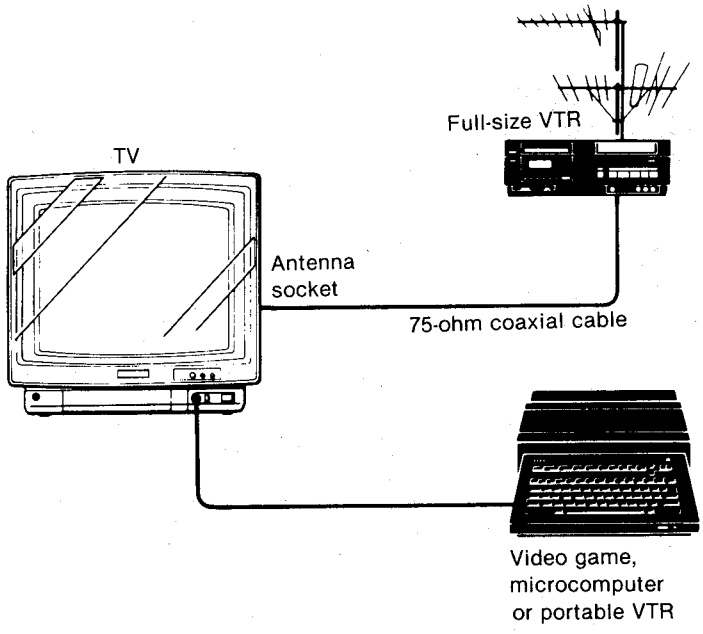
Press the GT button. When the GT button is pressed, the program number 00 will appear on the screen.
As the GT button has been preadjusted to receive UHF frequency, it is necessary to reset the channel in accordance to the RF output of equipment to be connected.
To readjust the channel, press the RESET button and then VHF SEARCH or UHF SEARCH button in accordance to the RF output of equipment. (See "Manual programing" on page 6.)
Once you have set the channel in this way, you can enjoy the picture of the connected equipment simply by pressing the GT button. When turning on the equipment, first turn on the connected equipment, and then the TV.



When you want to watch TV programs or playback picture from the VTR connected to the antenna socket on the back, press the GT button again. The program being received before the GT button was pressed will appear. If the picture is distorted, turn off the equipment connected to the RF AUX socket.

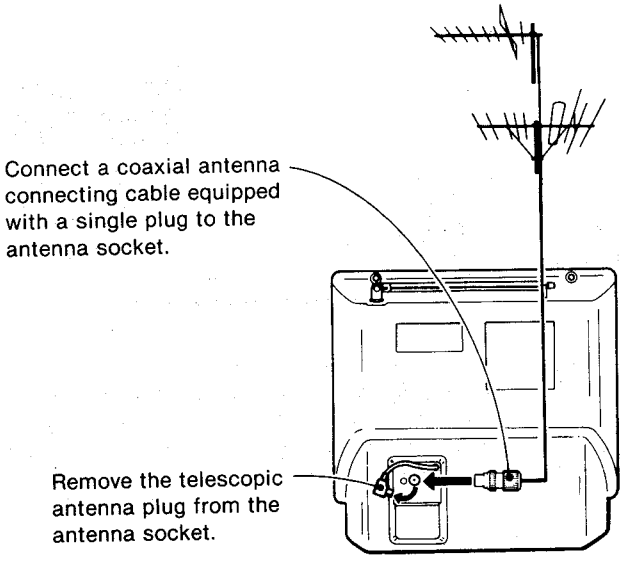
1-5. TO ENJOY VIDEO TAPE PLAYBACK USING THE ANTENNA SOCKET

You can connect a full-size VTR to the antenna socket on the TV's back panel. In this case, connect the outdoor antenna to the VTR. For details on the connections, see the instructions of the VTR.



1-6. EXTERNAL ANTENNA CONNECTION

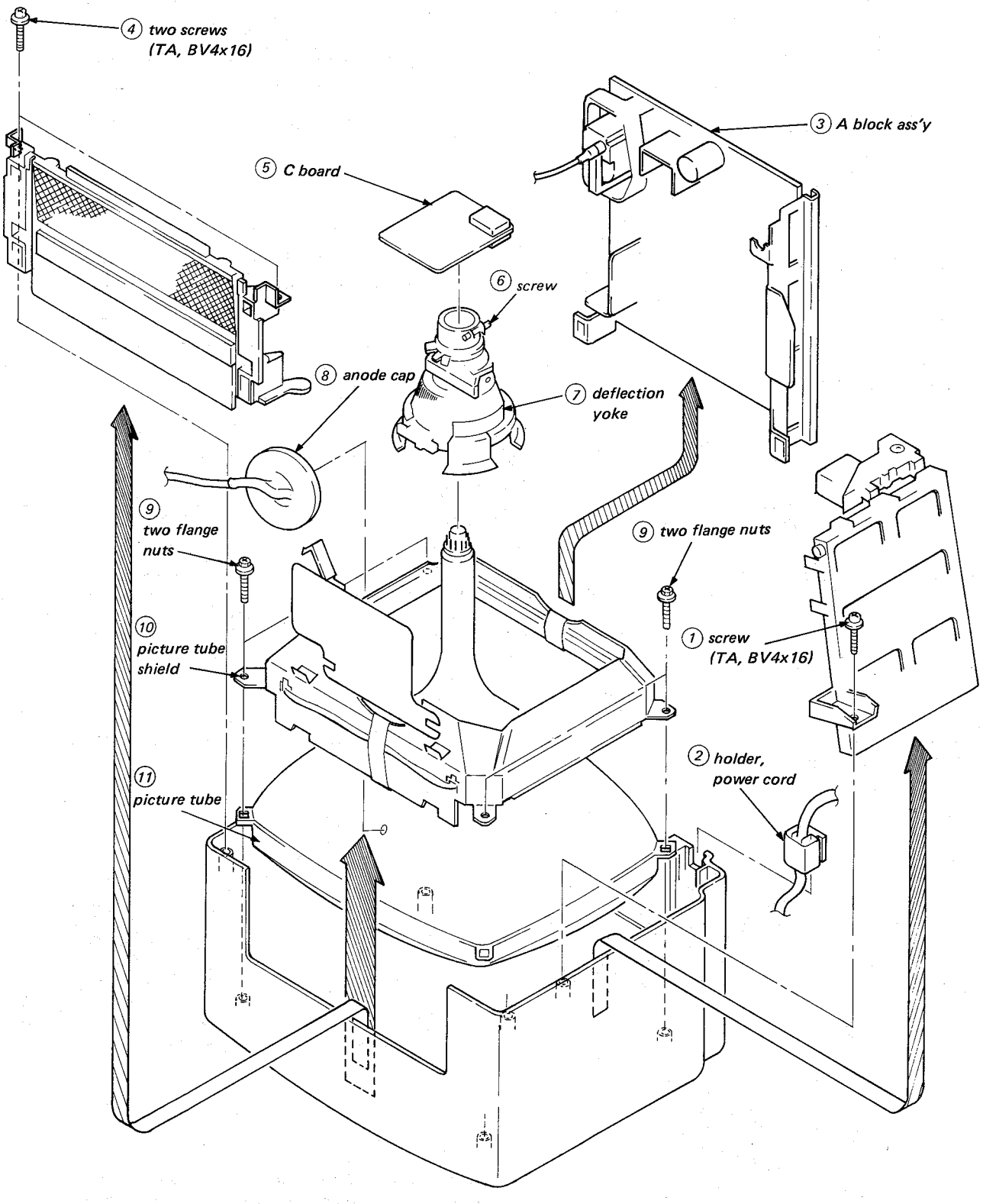
The built-in telescopic antenna will provide good reception in most reception areas. If you cannot obtain satisfactory reception with it, the use of an outdoor antenna is recommended.


Connect a coaxial antenna connecting cable equipped with a single plug to the antenna socket.
Remove the telescopic antenna plug from the antenna socket.

Your Sony dealer will be pleased to advise you which type of antenna is best suited to your location.

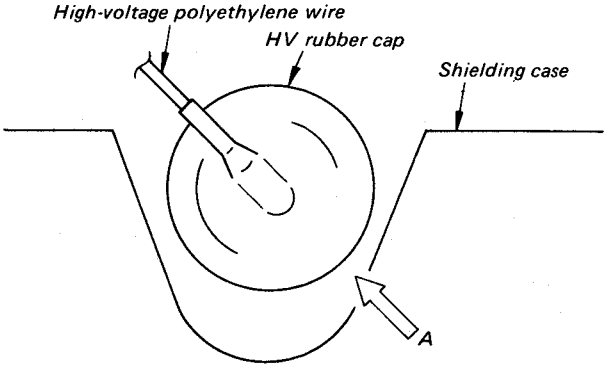
SECTION2
DISASSEMBLY

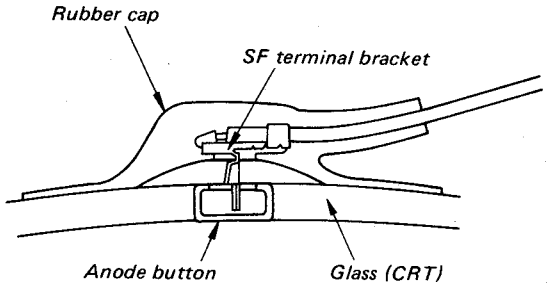
2-1. PICTURE TUBE REMOVAL

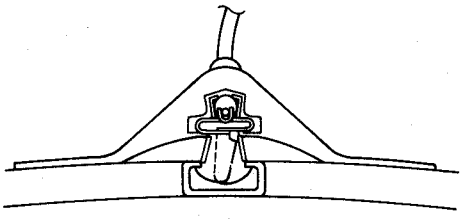


2-2. REMOVAL OF ANODE CAP

- **Anode Cap Structure**

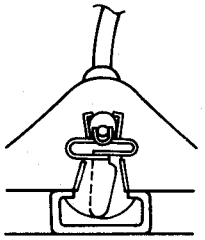




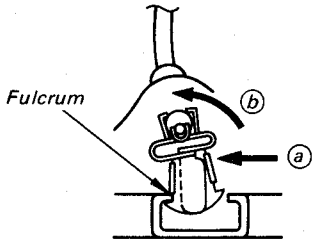


Cross section viewed from the arrow A

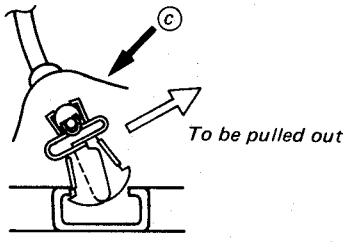
- **Removal of SF Terminal**



Normal inserting position

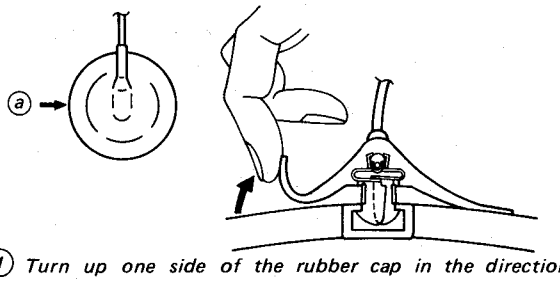


When pushing in the direction indicated by the arrow (a), the SF terminal tilts toward the fulcrum side due to the spring characteristic.
Remove it by pulling up in the direction indicated by the arrow (b) with the SF terminal tilted.

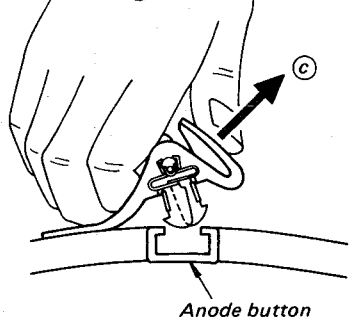


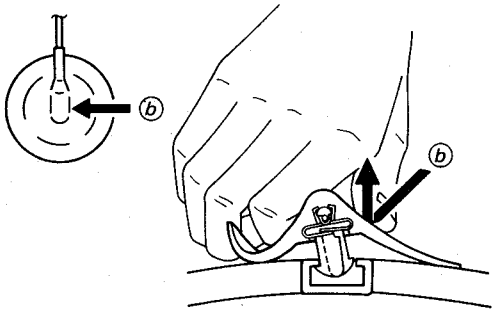
Tilt the SF terminal in the direction of the arrow (c) and pull out it in the direction (of 45°) indicated by the arrow.

- **Removing Procedures**



(1) *Turn up one side of the rubber cap in the direction indicated by the arrow (a).*



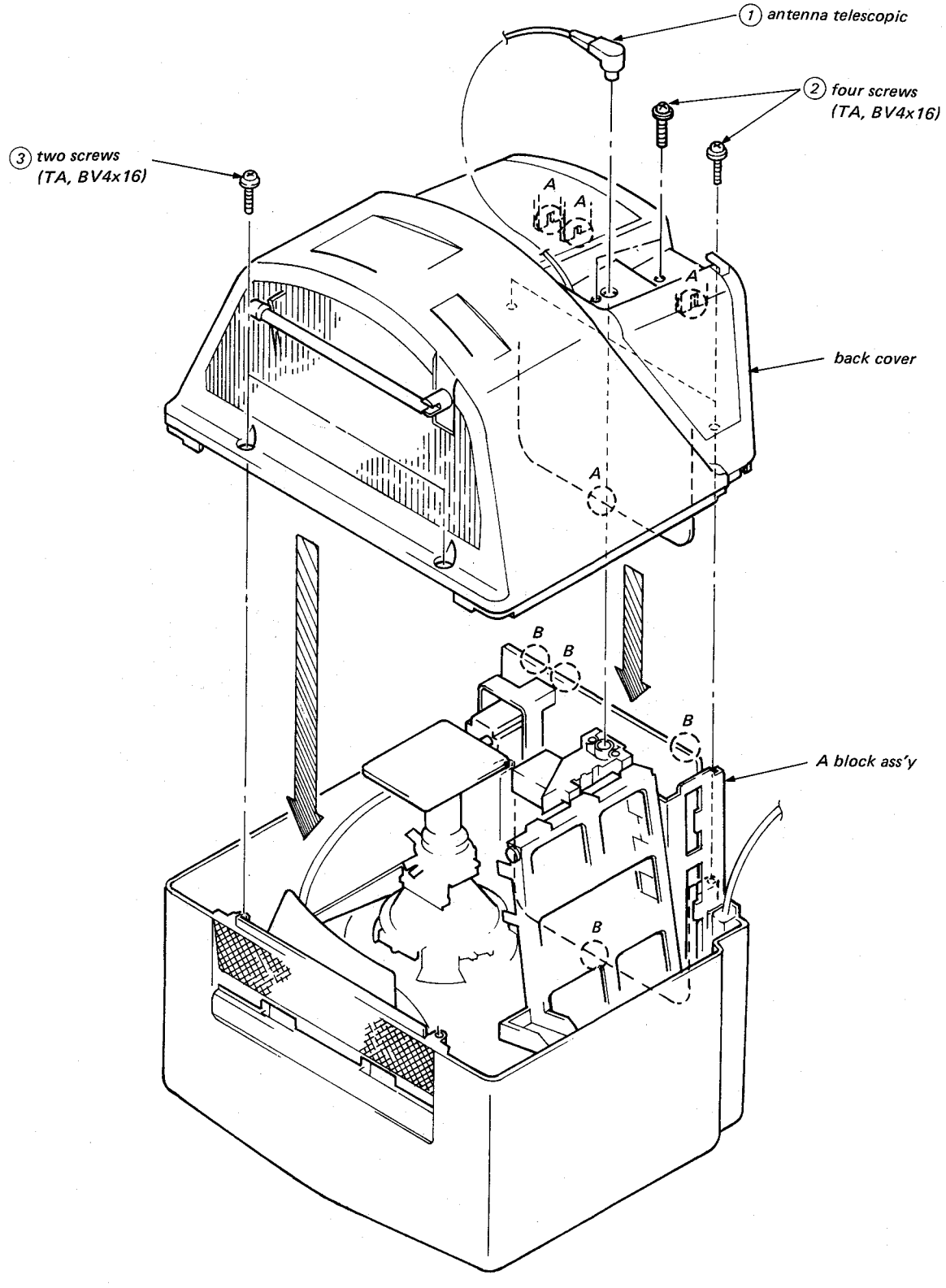


(2) *Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow (b).*

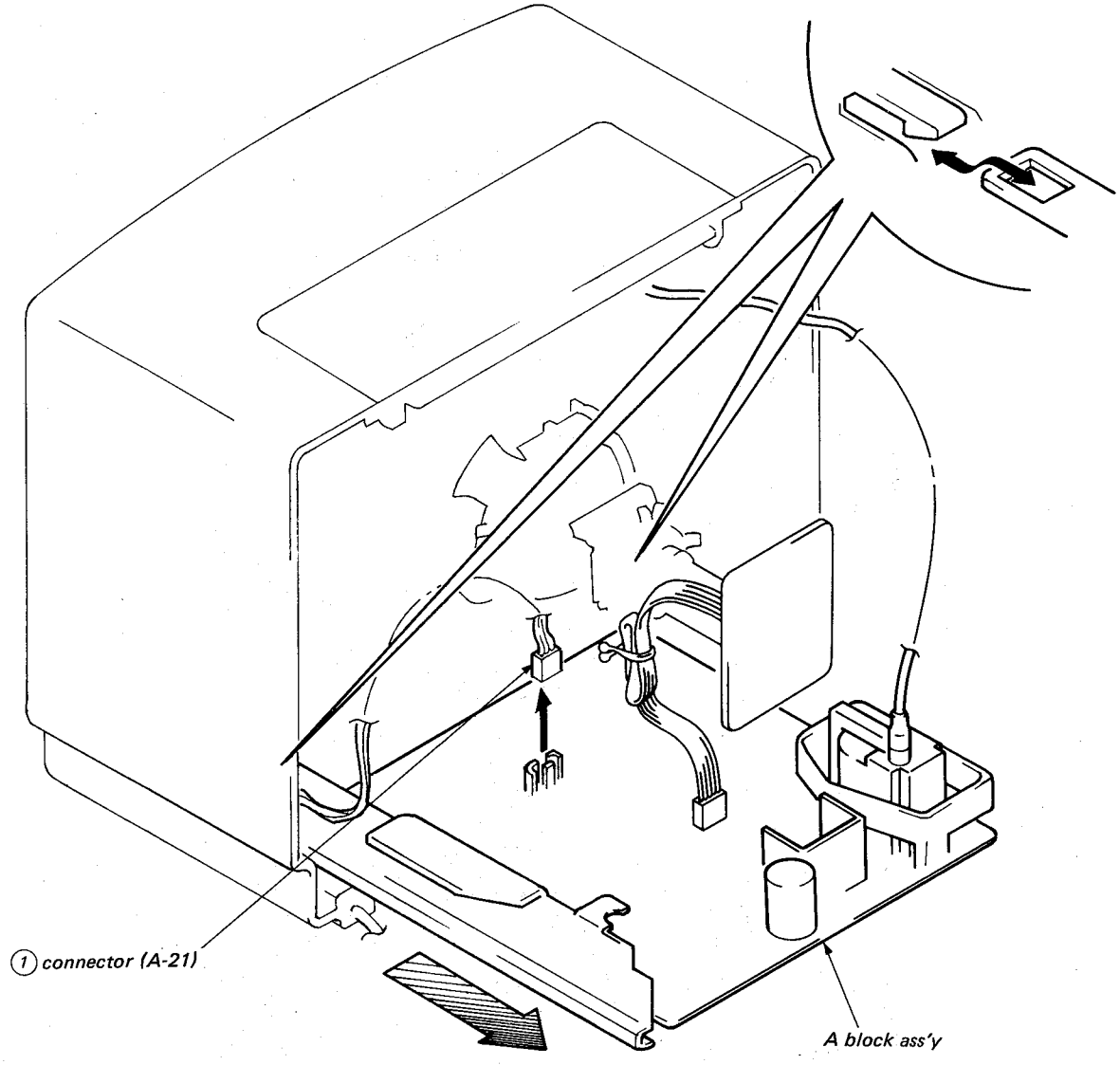
(3) *When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow (c).*

2-3. INSTALLATION OF BACK COVER

Note; Insert each section A of the back cover into the section B of the A block ass'y.



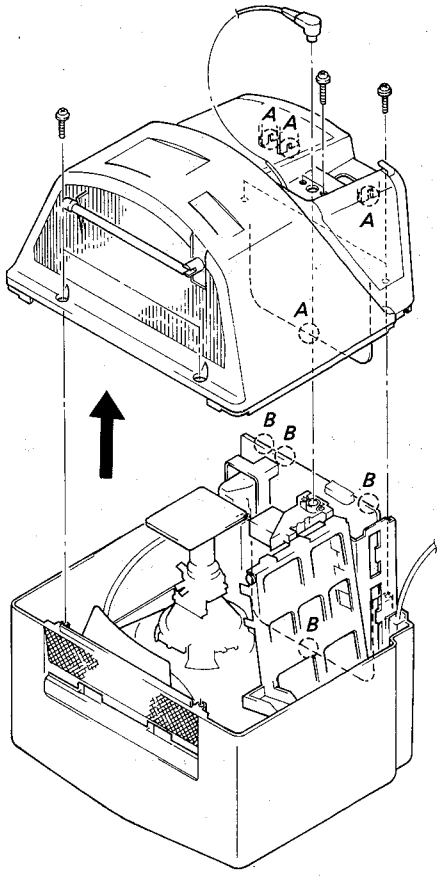
2-4. A BLOCK ASSEMBLY REMOVAL



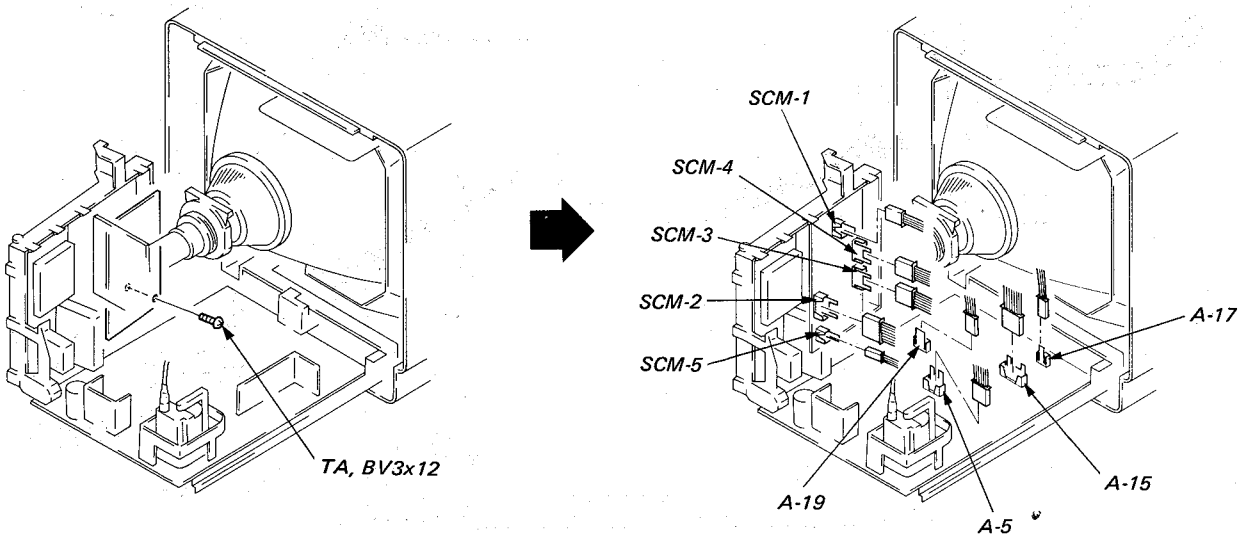
2-5. OPK-102 BOARD ATTACHING

Before installing OPK-102 unplug the set from the wall outlet.
After the installation is completes, check that the TV operates properly.

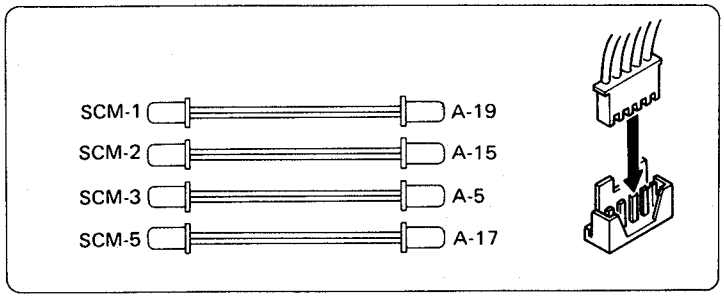
1. Remove the back cover.

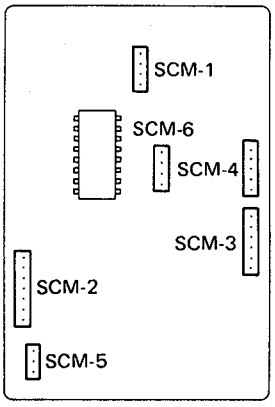


2. OPK-102 BOARD MOUNTING.
   - Fix the OPK-102 board as shown in the figure.
   - Attach the OPK-102 to bundle the cords with the cord clamp.



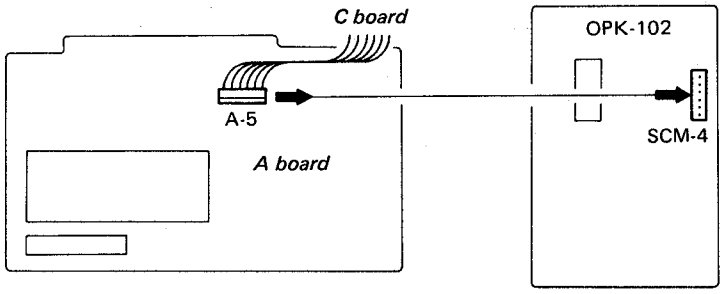
3. CONNECTOR CONNECTING
   - Connect the other end of the harness connected to the OPK-102 board to each connector on the A and C boards, respectively, as shown in the figure below.
     (Refer to the connector arrangement on the A, C and OPK-102 boards.)



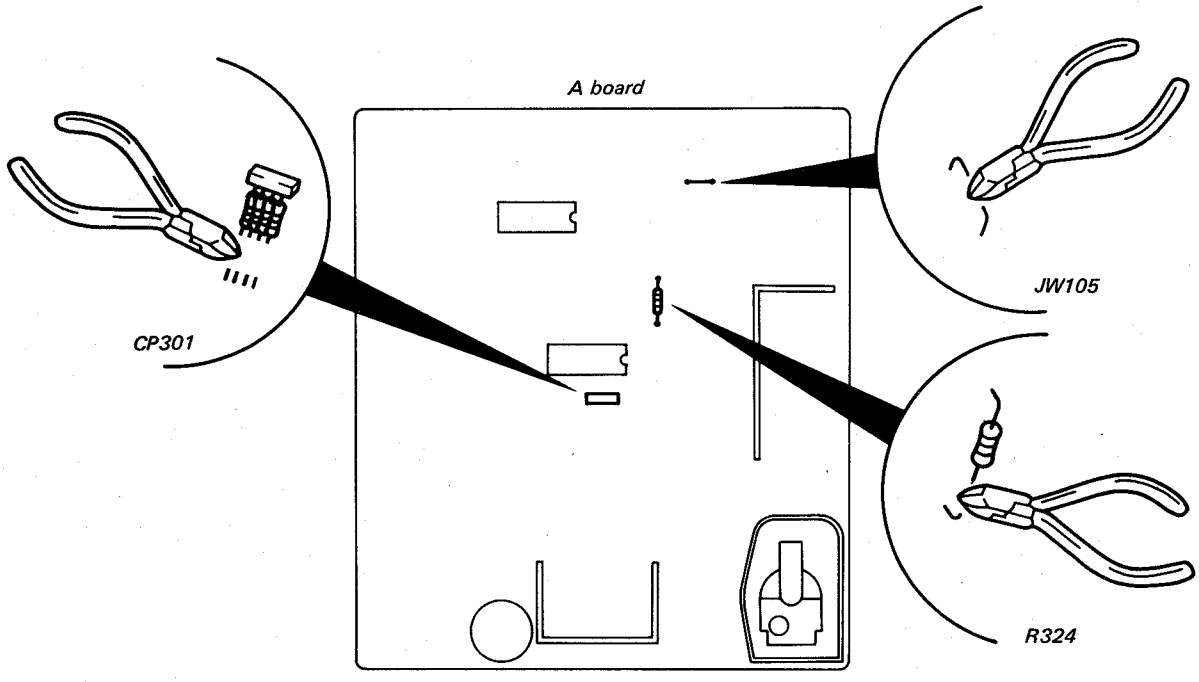


Connector arrangement on OPK-102 board.

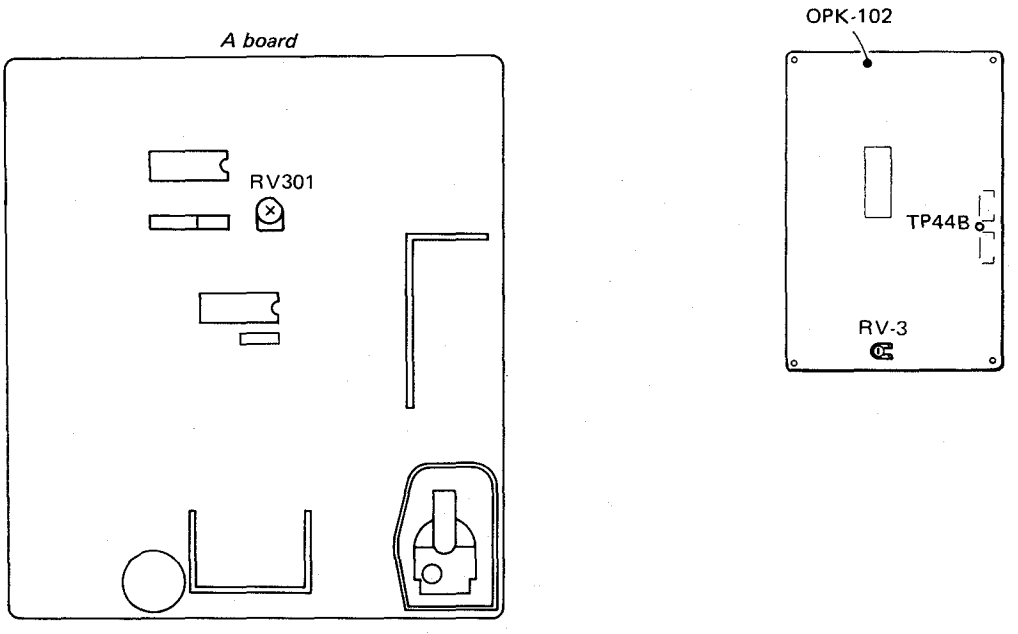
Disconnect and connect to SCM-4



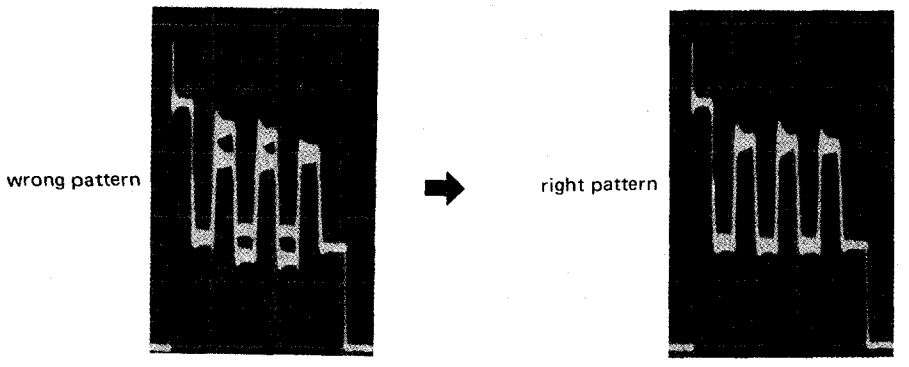
4. A BOARD REMODELING
   - Cut off the jumper (JW105), CP301 and R324 using a nipper as shown in the figure.



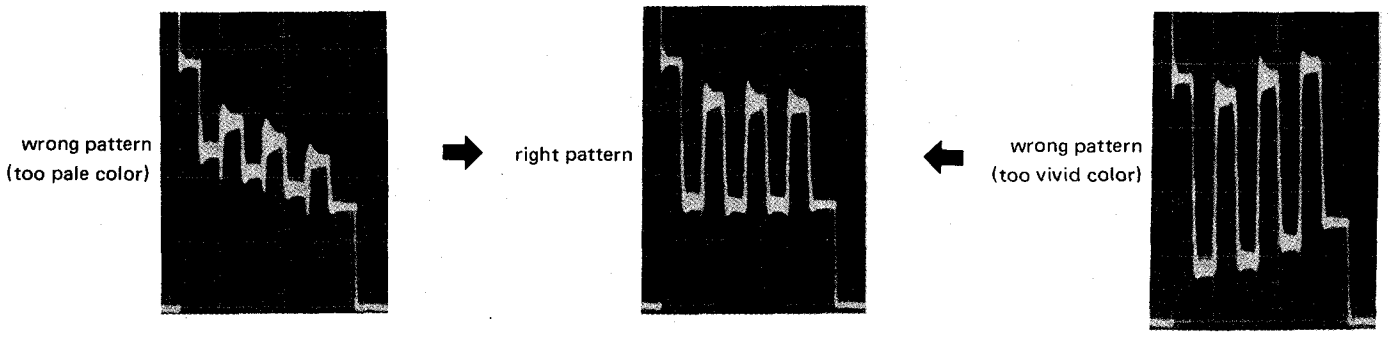
2-6. ADJUSTMENT



1. Plug the set to a wall outlet and turn on the power.
2. Connect the oscilloscope to the TP44B oscilloscope test pin on the OPK-102.
3. Select the SECAM color channel and adjust the color bar pattern (RV-3).



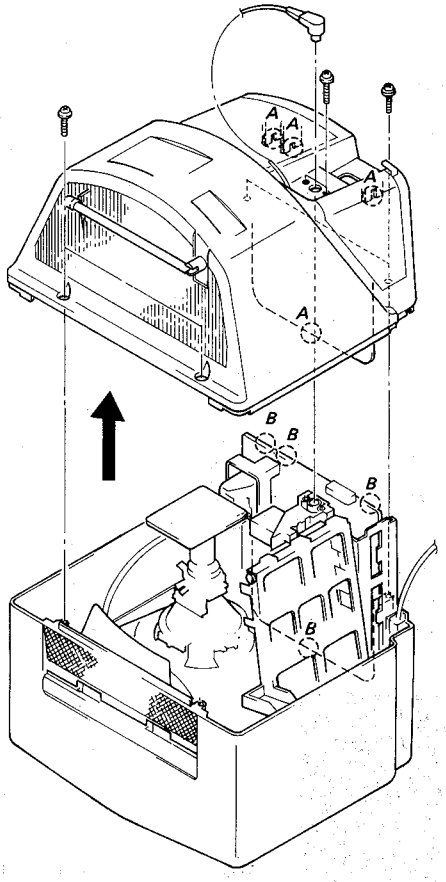
4. Select the PAL color channel and adjust the color bar pattern (RV301).



2-7. OPK-103 BOARD ATTACHING

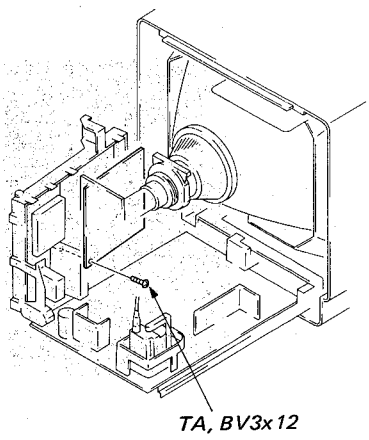
Before installing the OPK-103G/103S, unplug the set from the wall outlet.
After the installation is completed, check that the TV operates properly.

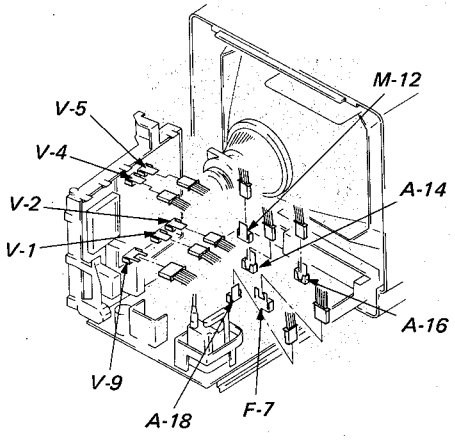
1. Remove the back cover.

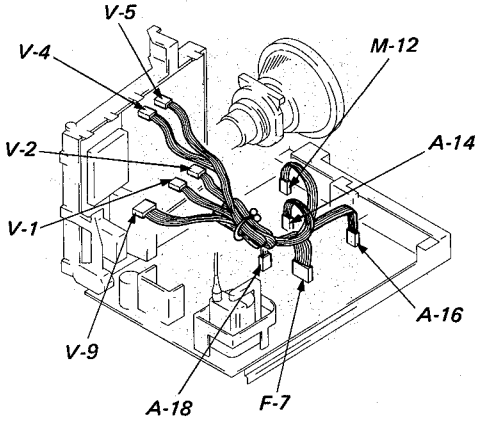


2. OPK-103 BOARD MOUNTING.

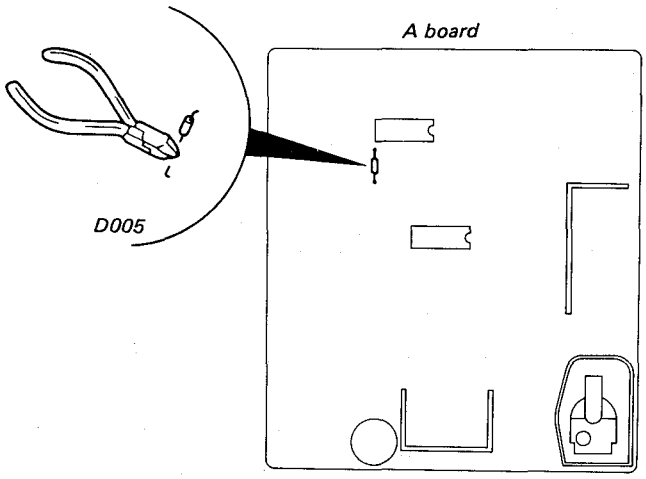
- Fix the OPK-103 board as shown in the figure.
- Attach the OPK-103G/103S to bundle the cords with the cord clamp.

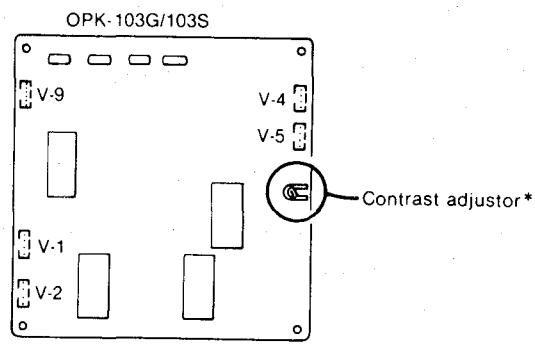






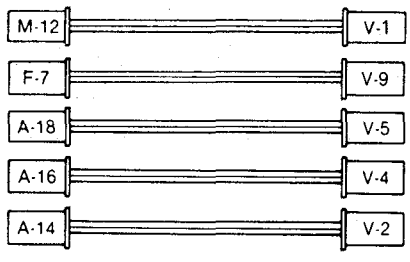
- Connect the printed wiring board A and the OPK-103G/103S referring to "connecting the cable"
- Cut off the D005 on the A board.

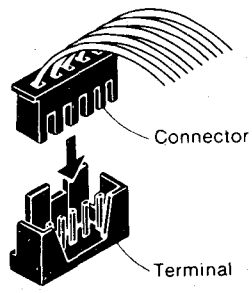




* This adjusts the picture contrast.
After connecting the cable, turn on the power and adjust the picture contrast by using the screwdriver.

Connect to the same number terminal as the connector. The connected terminals are colored red.





SECTION3
SETUP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

Controls and switch should be set as follows unless otherwise noted:

- ◑ (picture) control ..... maximum (fully clockwise)
- ☼ (brightness) control ..... maximum (fully clockwise)
- AFT switch ..... ON

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. White Balance

Note: Test Equipment Required.
1. Color-bar/Pattern Generator
2. Degausser

3-1. BEAM LANDING

Preparation:

- Feed in the white pattern.
- Before starting, degauss the entire screen.

1 Turn on set power supply and receive an all-white signal.
2 Evenly degauss the entire screen.
3 Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Figure 1-1.
4 Set BKG VR Ⓡ to maximum and set Ⓑ and Ⓖ to minimum.
5 Move the deflection yoke back, and adjust the purity control so that Ⓡ is in the center and Ⓖ and Ⓑ are at the sides, evenly. (Figure 1-2.)
6 Move the deflection yoke forward so that the entire screen is red.
* If the deflection yoke is pushed all the way to the CRT then moved slightly back, landing adjustment is easier.
7 Substitute Ⓖ, then Ⓑ for Ⓡ in step 4 and check landing.
8 Rotate Ⓡ, Ⓖ and Ⓑ once each and check landing.
9 When landing is not right, adjust the purity control and use magnets as shown in Figure 1-3, then repeat steps 7 and 8.
10 When a magnet is used, be sure to perform step 2, and tighten deflection yoke mounting screw loosely.

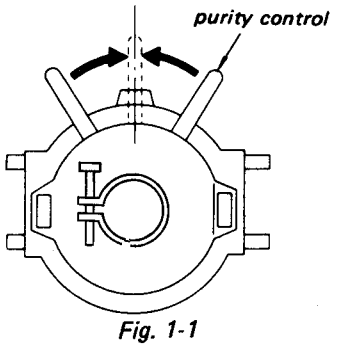


Fig. 1-1

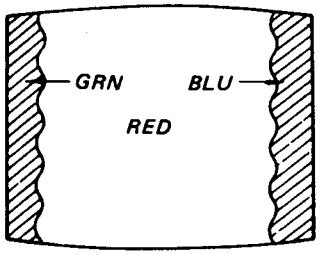


Fig. 1-2

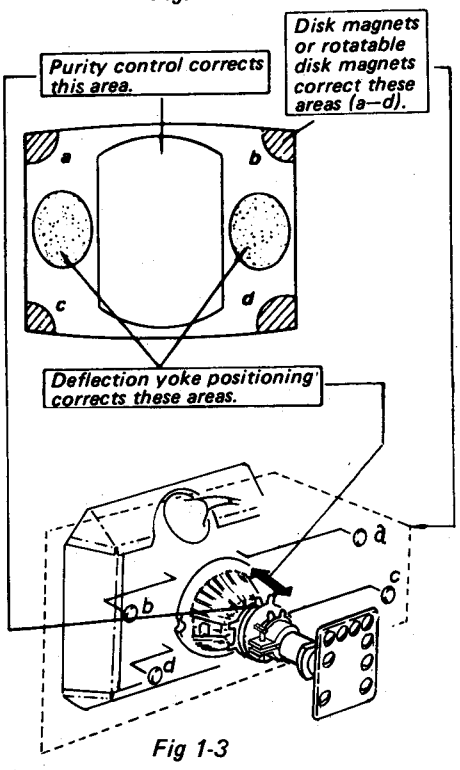
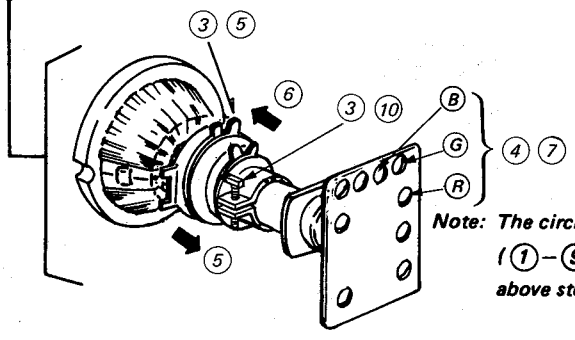


Fig 1-3



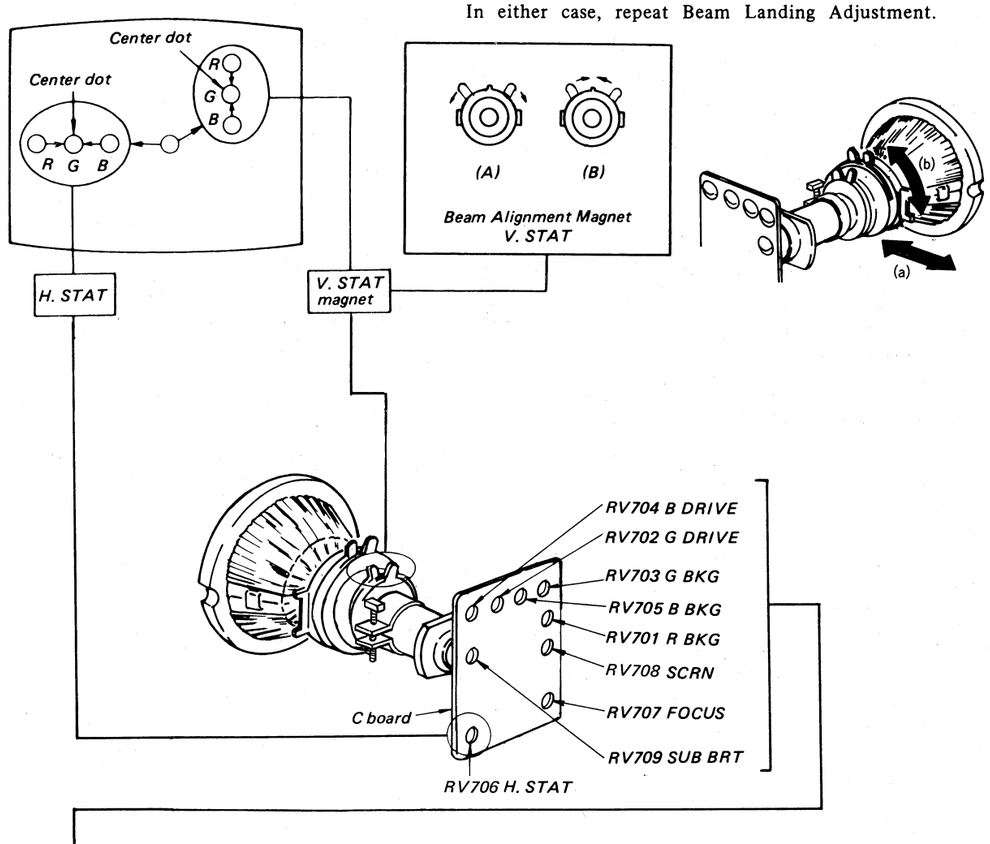
Note: The circled numbers (①–⑨) show above steps.

3-2. CONVERGENCE

Preparation:

- Before starting this adjustment, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Turn BRIGHTNESS control fully counterclock-wise.
- Feed in a dot pattern.

(1) Horizontal and Vertical Static Convergence



If blue dot does not coincide with red and green dots, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

In either case, repeat Beam Landing Adjustment.

3-3. WHITE BALANCE

(1) SCREEN (G2)

1. In put a dots pattern.
2. Set the PICTURE control at minimun and turn the BRIGHT control fully counterclock wise.
3. Confirm that BKG voltage is less than 160V dc when turning RV701 (R.BKG), RV703 (G.BKG) and RV705 (B.BKG).
4. Note the color which becomes visible first when turning RV708 (SCRN).

(2) WHITE BALANCE (cut off)

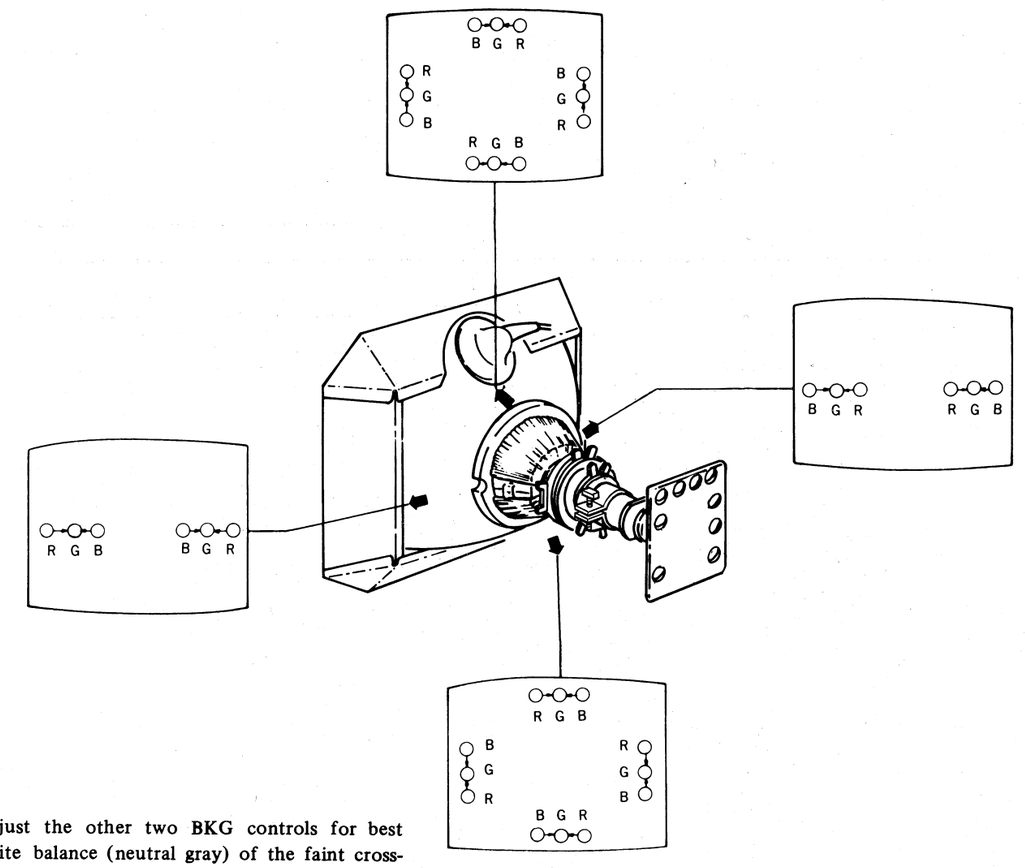
1. Input a cross-hach pattern.
2. Set the PICTURE control to minimun and turn the BRIGHT control click position.
3. Turn RV704 (B.DRIVE) and RV702 (G.DRIVE) fully clockwise.
4. Set RV701 (R.BKG), RV703 (G.BKG) and RV705 (B.BKG) to minimun.
5. Turn RV709 (SUB BRT) slowly to obtain a faintly visibe cross-hatch. Note the color that first becomes visible by turning RV709. Do not turn a BKG control for this color.

(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



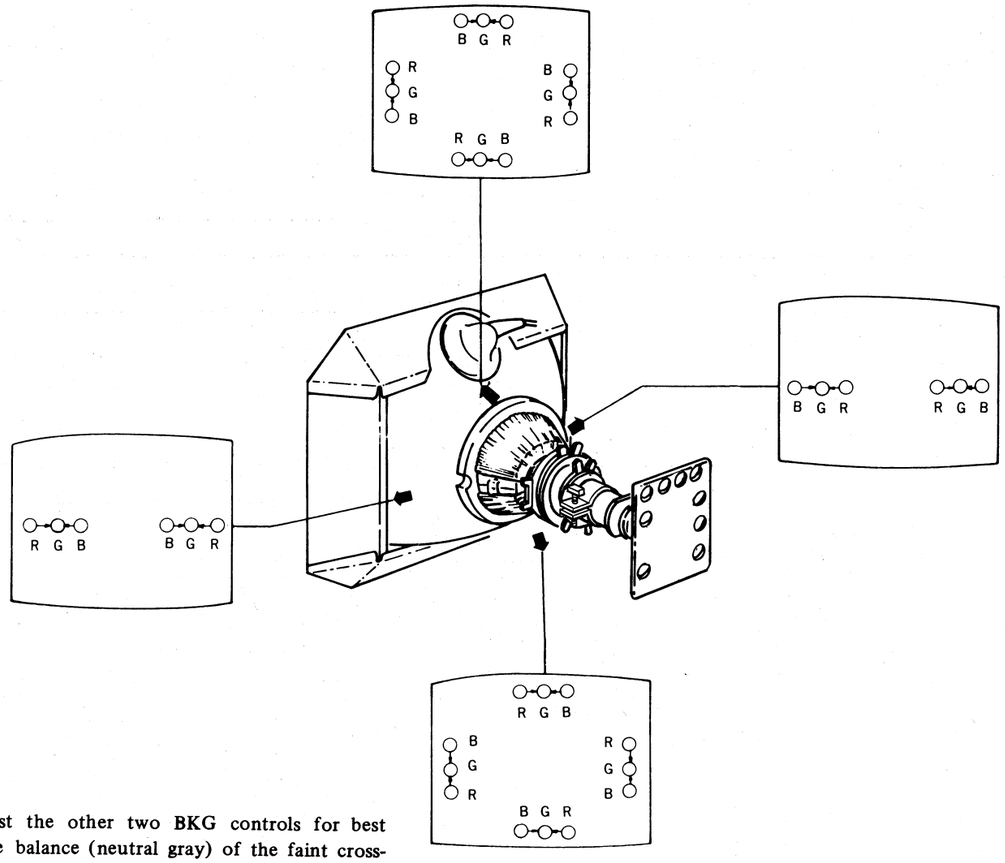
6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hach.
7. Set the PICTURE control to maximum and turn the BRIGHT control fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
8. Repeat steps 1. through 8. several times.

(2) Dynamic Convergence Adjustment

Preparation:

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



6. Adjust the other two BKG controls for best white balance (neutral gray) of the faint cross-hach.
7. Set the PICTURE control to maximum and turn the BRIGHT control fully clockwise. Observe the screen and adjust the DRIVE controls for best white balance.
8. Repeat steps 1. through 8. several times.

SECTION4
CIRCUIT ADJUSTMENTS

Note: (1) TEST EQUIPMENT REQUIRED

1. Oscilloscope
2. Digital multimeter
3. Color-bar/pattern generator
4. Variable auto-transformer
5. Isolation transformer
6. Regulated-dc power supply

(2) INPUT SIGNAL

When making these adjustments, supply a color-bar or an off-air signal.

(3) CONTROL SETTING

Controls and switches should be set as follows when making checks and adjustments unless otherwise noted.

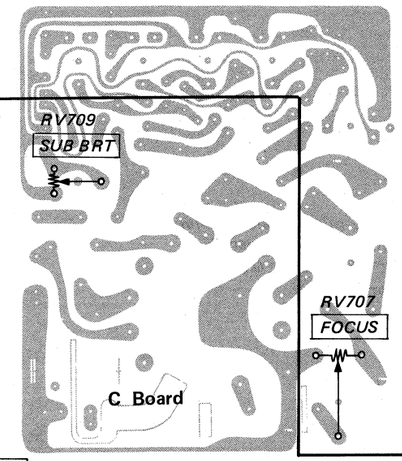
PICTURE control, COLOR control } initial setting
V. HOLD control ..... set for stable picture
BRIGHT control . . . . . set for best picture
AFT SW . . . . . ON

(4) These adjustments should be performed with the rated power supply voltage unless otherwise noted.

4-1. C BOARD ADJUSTMENTS

FOCUS

Adjust RV707 for best Focus.



SUB BRT

① Receive a broadcast.
② Turn the picture knob fully counterclockwise, and set the brightness knob for optimum picture.
③ Adjust RV709 for optimum brightness.
④ Set the picture knob for best picture.
⑤ Receive each channel and check that there are no extremes of brightness.

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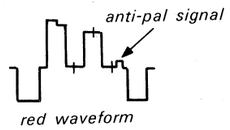
4-2. A BOARD ADJUSTMENTS

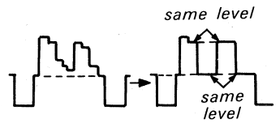
CW PHASE

1. Feed in a special color-bar signal.
2. Connect an oscilloscope (B) to the pin 4 of A-5 connector.
3. Adjust RV303 so that the anti-pal signal of the red output is disappeared.



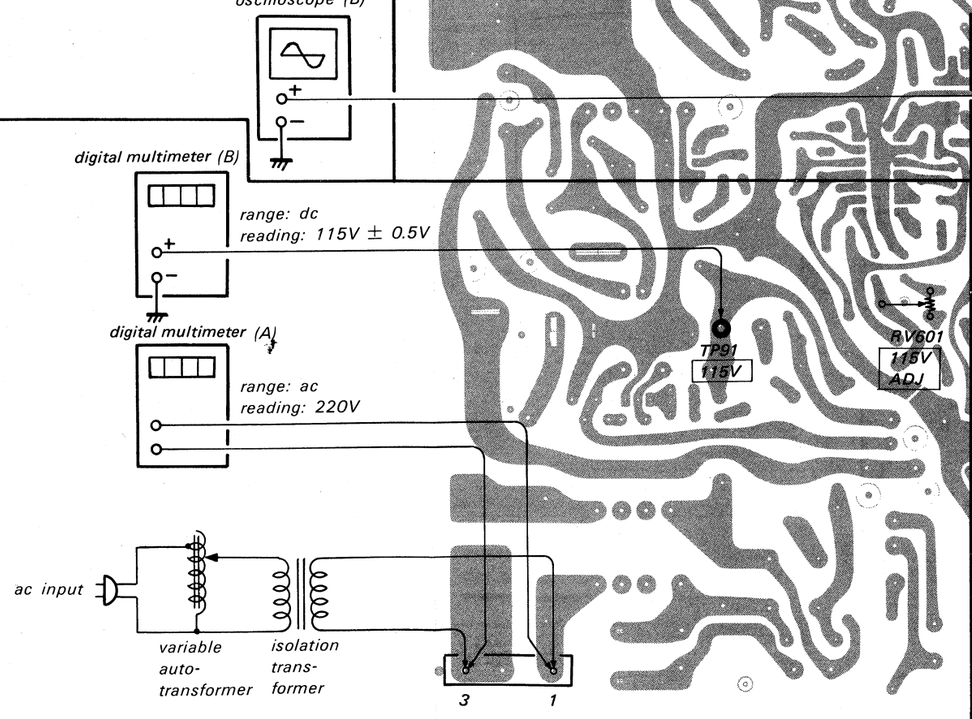
SUB COLOR

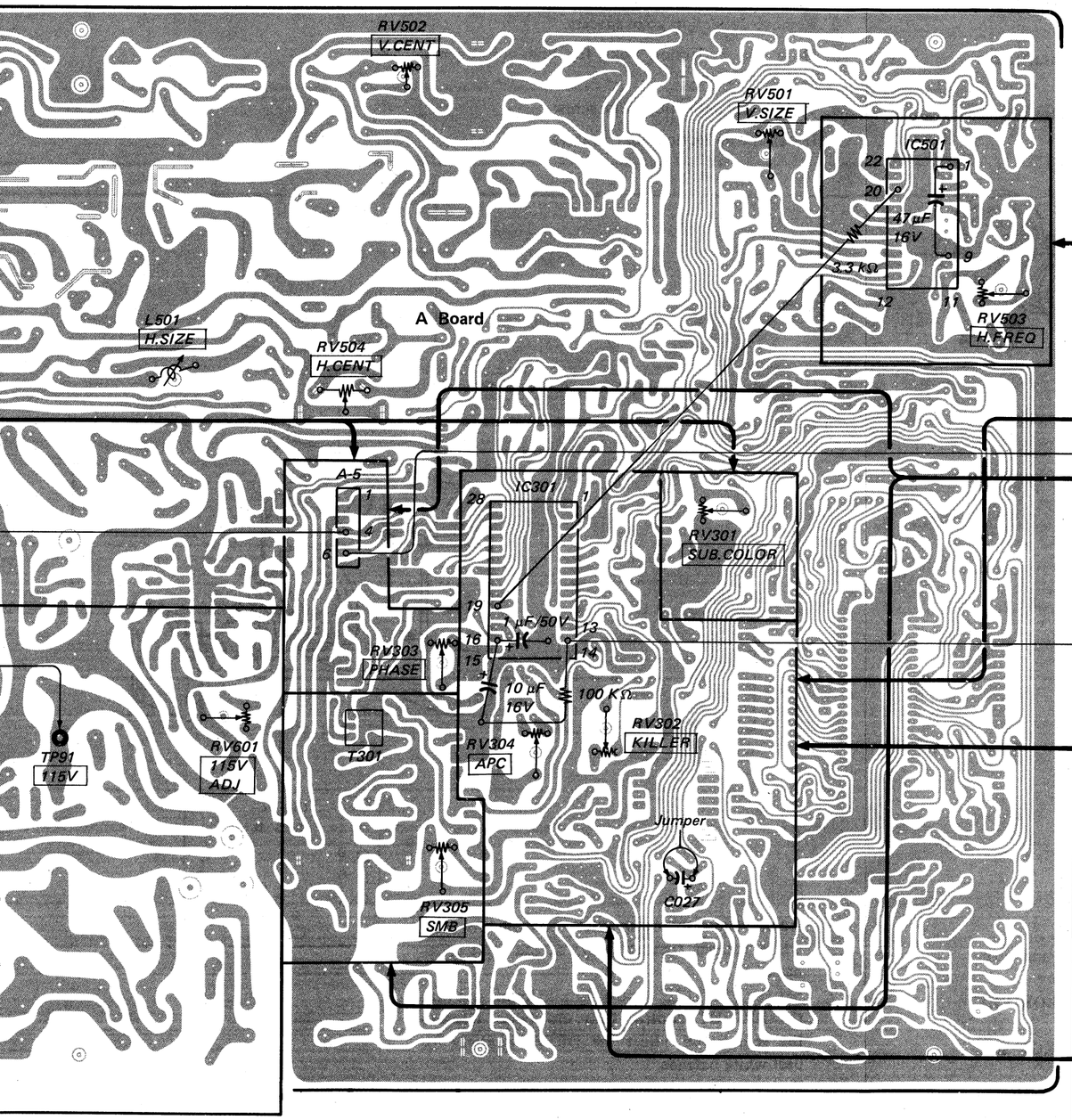
1. Feed in a color-bar signal from color-bar/pattern generator.
2. Connect an oscilloscope (B) to the pin 4 of A-5 connector.
3. Adjust RV301 for a best waveform of the red output as shown.



115V

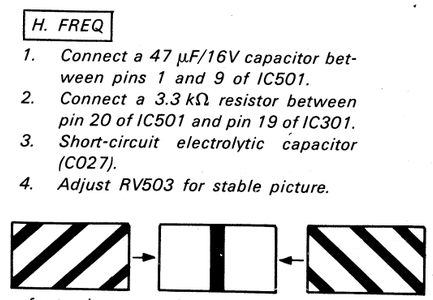
1. Adjust variable auto-transformer for 220V ac on digital multimeter (A).
2. Adjust RV601 for 115V ± 0.5V dc on digital multimeter (B).





H. FREQ

1. *Connect a 47 µF/16V capacitor between pins 1 and 9 of IC501.*
2. *Connect a 3.3 kΩ resistor between pin 20 of IC501 and pin 19 of IC301.*
3. *Short-circuit electrolytic capacitor (C027).*
4. *Adjust RV503 for stable picture.*

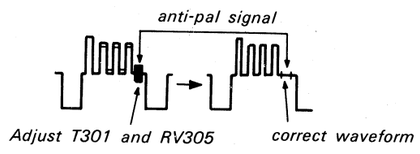


oscilloscope (A)

digital multimeter

1H DELAY

1. *Feed in a special color-bar signal.*
2. *Connect an oscilloscope (A) to the pin 6 of A-5 connector.*
3. *Adjust T301 and RV305 to obtain the waveform as shown.*



KILLER

1. *Feed in a black and white off-air signal.*
2. *Connect a 1 µF/50V capacitor between pin 16 of IC301 and ground during this adjustment.*
3. *Adjust RV302 so that the voltage on pin 13 of IC301 is 7.9 ± 0.1V dc.*

APC (4.433 MHz)

1. *Feed in a color-bar signal from color-bar/pattern generator.*
2. *Connect a 100 kΩ resistor between pin 13 of IC301 and ground during this adjustment.*
3. *Connect a 10 µF/16V capacitor between pin 16 of IC301 and ground during this adjustment.*
4. *Adjust RV304 for the stable color pattern.*

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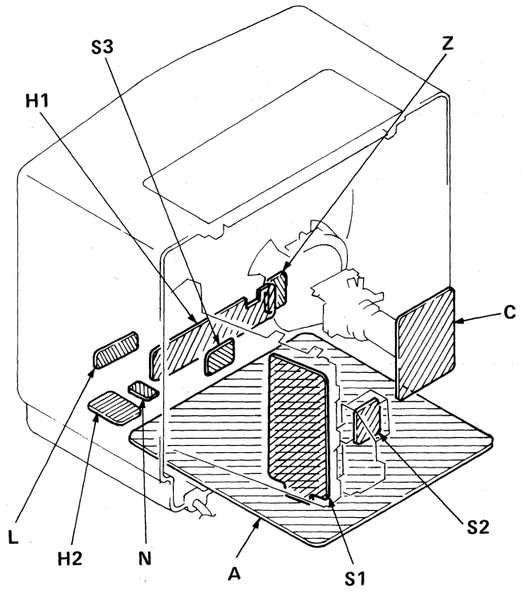
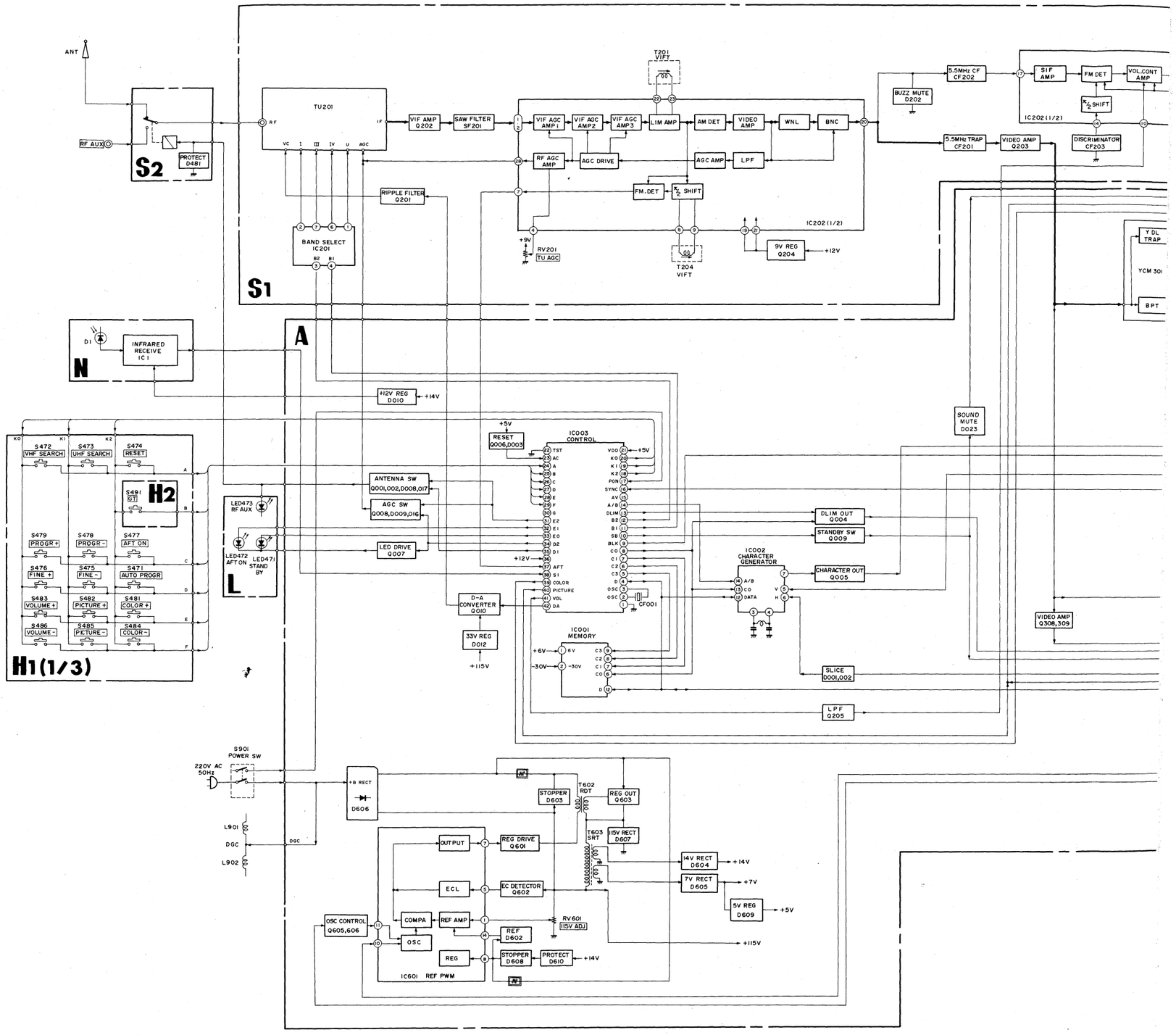
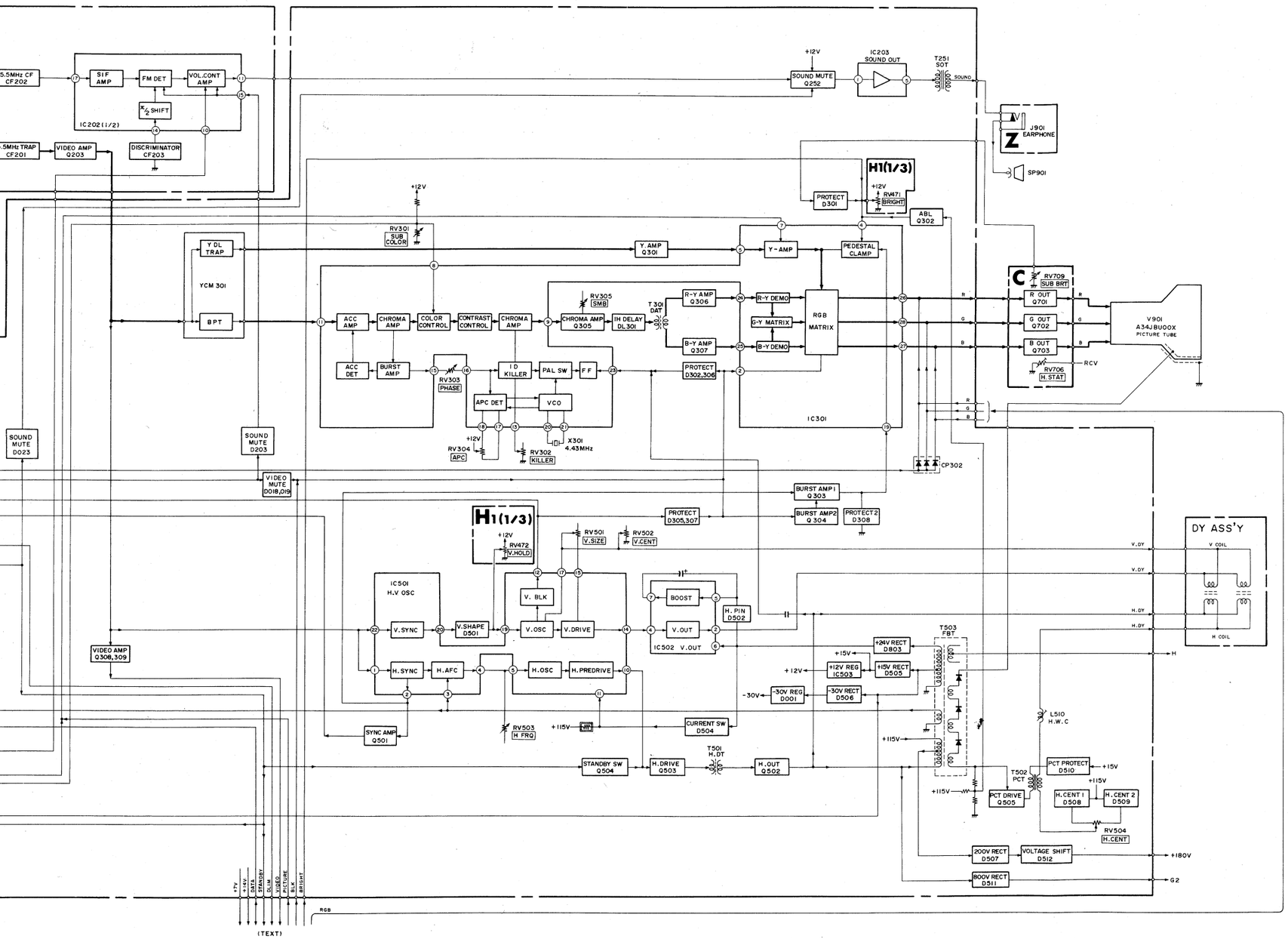
SECTION 5
DIAGRAMS

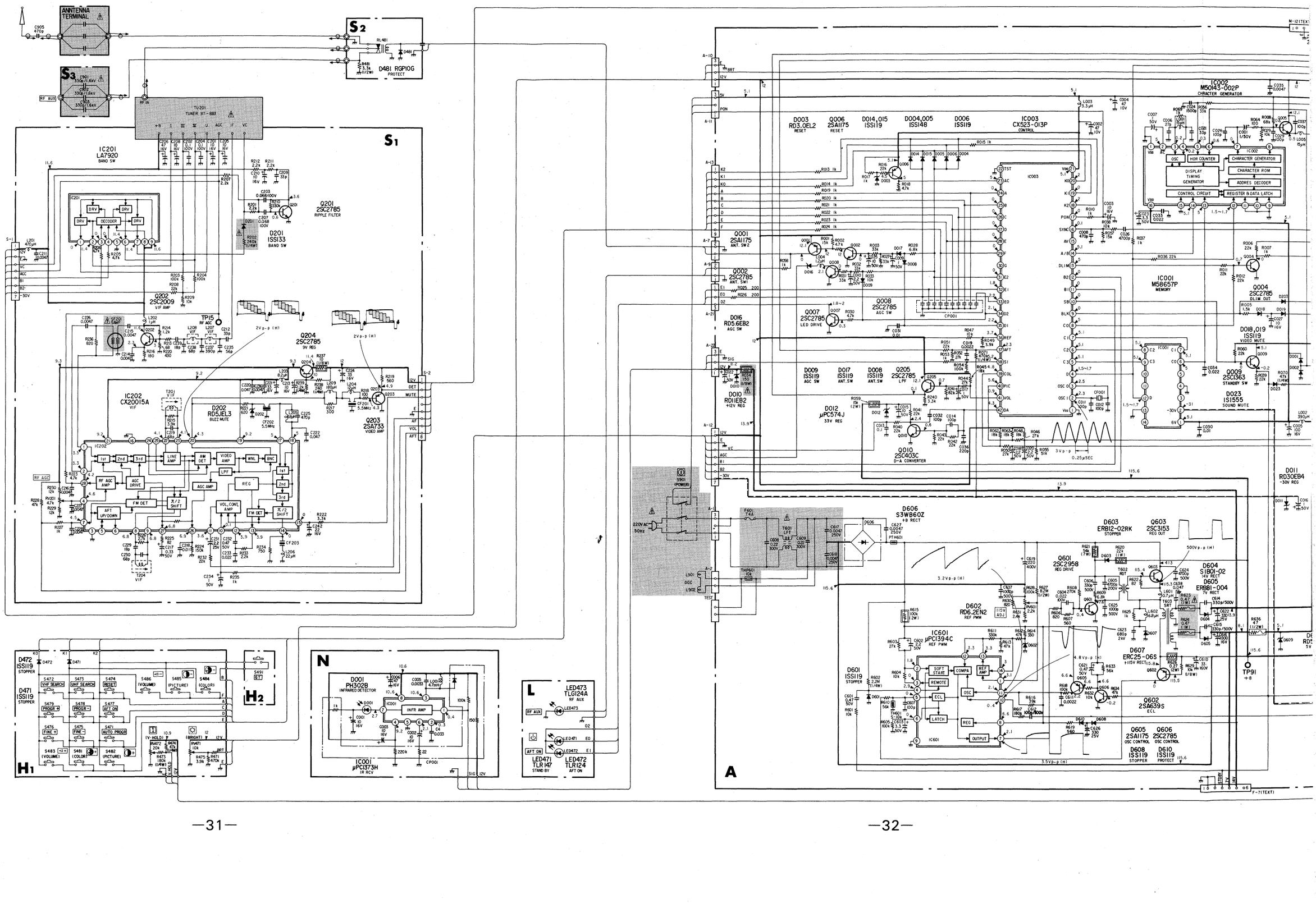
5-1. CIRCUIT BOARDS LOCATION



5-2. BLOCK DIAGRAM

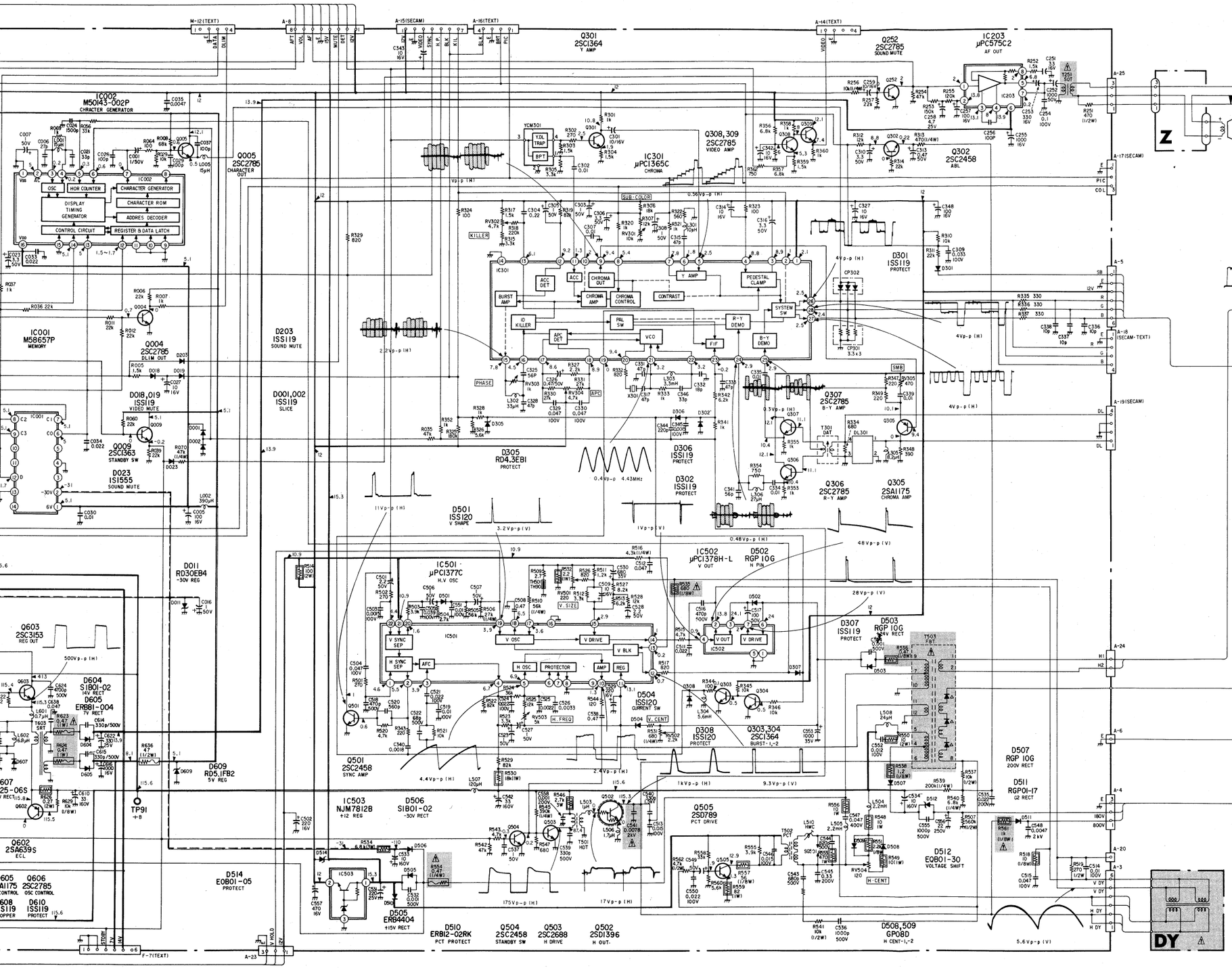



5.5MHz CF CF202
SIF AMP
FM DET
VOL.CONT AMP
1/2 SHIFT
IC202(1/2)
5.5MHz TRAP CF201
VIDEO AMP Q203
DISCRIMINATOR CF203
+12V
IC203 SOUND OUT
SOUND MUTE Q252
T251 SOT
SOUND
J901 EARPHONE
SP901
H1(1/3)
+12V
RV471 BRIGHT
PROTECT D301
ABL Q302
RV301 SUB COLOR
Y DL TRAP
YCM 301
BPT
Y AMP Q301
Y-AMP
PEDESTAL CLAMP
C
RV709 SUB BRT
R OUT Q701
G OUT Q702
B OUT Q703
RV706 H.STAT
RCV
V901 A34JBUOOX PICTURE TUBE
ACC AMP
CHROMA AMP
COLOR CONTROL
CONTRAST CONTROL
CHROMA AMP
RV305 SMB
CHROMA AMP Q305
1H DELAY DL301
T301 DAT
R-Y AMP Q306
B-Y AMP Q307
R-Y DEMO
G-Y MATRIX
B-Y DEMO
RGB MATRIX
ACC DET
BURST AMP
RV303 PHASE
ID KILLER
PAL SW
F.F
PROTECT D302,306
APC DET
VCO
RV304 APC
RV302 KILLER
X301 4.43MHz
IC301
CP302
SOUND MUTE D023
SOUND MUTE D203
VIDEO MUTE D018,019
BURST AMP1 Q303
BURST AMP2 Q304
PROTECT2 D308
PROTECT D305,307
H1(1/3)
+12V
RV472 V.HOLD
RV501 V.SIZE
RV502 V.CENT
DY ASS'Y
V COIL
H COIL
V.DY
H.DY
IC501 H.V OSC
V. BLK
BOOST
H. PIN D502
V. SYNC
V.SHAPE D501
V.OSC
V.DRIVE
V.OUT
IC502 V.OUT
H. SYNC
H.AFC
H.OSC
H.PREDRIVE
VIDEO AMP Q308,309
SYNC AMP Q501
RV503 H.FRQ
+115V
CURRENT SW D504
STANDBY SW Q504
H.DRIVE Q503
T501 H.DT
H.OUT Q502
T503 FBT
+24V RECT D803
+15V
+12V REG IC503
+15V RECT D505
-30V
-30V REG D001
-30V RECT D506
L510 H.W.C
PCT PROTECT D510
T502 PCT
PCT DRIVE Q905
H.CENT 1 D508
H.CENT 2 D509
RV504 H.CENT
200V RECT D507
VOLTAGE SHIFT D512
+180V
800V RECT D511
G2
H
+7V
+15V
+5V
STANDBY
OSHI
VIDEO
H.SYNC
BLK
BRIGHT
RGB
(TEXT)


ANTENNA TERMINAL
S2
RL481
D481 RGP10G PROTECT
S3
RF AUX
RF IN
TU201 TUNER BT-883
S1
IC201 LA7920 BAND SW
Q201 2SC2785 RIPPLE FILTER
D201 ISS133 BAND SW
Q202 2SC2009 VIF AMP
TP15 RF AGC
IC202 CX20015A VIF
T201
T202 VIF
D202 RD5.1EL3 BUZZ MUTE
CF201 5.5MHz
CF202 5.5MHz
Q204 2SC2785 9V REG
Q203 2SA733 VIDEO AMP
IC202
1st 2nd 3rd
LINE AMP
AM DET
VIDEO AMP
WNL
BNC
LPF
REG
AGC DRIVE
AGC AMP
RF AGC AMP
FM DET
X/2 SHIFT
VOL. CONT. AMP
AFT UP/DOWN
RF AGC
2V p-p (H)
D472 ISS119 STOPPER
D471 ISS119 STOPPER
S472 (VHF SEARCH)
S473 (UHF SEARCH)
S474 (RESET)
S486 (VOLUME)
S485 (PICTURE)
S484 (COLOR)
S479 (PROGR +)
S478 (PROGR -)
S477 (AFT ON)
S476 (FINE +)
S475 (FINE -)
S471 (AUTO PROGR)
S483 (VOLUME)
S481 (COLOR)
S482 (PICTURE)
H1
5491 (ST)
H2
N
D001 PH302B INFRARED DETECTOR
IC001 μPC1373H IR RCV
INFR AMP
L
LED473 TLG124A RF AUX
LED471 TLR147 STAND BY
LED472 TLR124 AFT ON
D003 RD3.0EL2 RESET
Q006 2SA1175 RESET
D014,015 ISS119
D004,005 ISS148
D006 ISS119
IC003 CX523-013P CONTROL
IC002 M50143-002P CHARACTER GENERATOR
OSC
HOR COUNTER
CHARACTER GENERATOR
CHARACTER ROM
DISPLAY TIMING GENERATOR
ADDRES DECODER
CONTROL CIRCUIT
REGISTER & DATA LATCH
IC001 M58657P MEMORY
Q001 2SA1175 ANT. SW2
Q002 2SC2785 ANT. SW1
D016 RD5.6EB2 AGC SW
Q007 2SC2785 LED DRIVE
Q008 2SC2785 AGC SW
D009 ISS119 AGC SW
D017 ISS119 ANT. SW
D008 ISS119 ANT. SW
Q205 2SC2785 LPF
D010 RD1EB2 +12V REG
D012 μPC574J 33V REG
Q010 2SC403C D-A CONVERTER
Q004 2SC2785 DLIM OUT
D018,019 ISS119 VIDEO MUTE
Q009 2SC363 STANDBY SW
D023 IS1555 SOUND MUTE
D011 RD30EB4 -30V REG
S901 (POWER)
F601 T4A
T601 LFT
D606 S3WB60Z +B RECT
PT1601
THP601 10Ω
D603 ER912-02RK STOPPER
Q603 2SC3153 REG OUT
D604 S1B01-02 14V RECT
D605 ER881-004 7V RECT
Q601 2SC2958 REG DRIVE
D602 RD6.2EN2 REF PWM
IC601 μPC1394C REF PWM
SOFT START
COMPA
REF AMP
REMOTE
OSC
ECL
LATCH
REG
OUTPUT
D601 ISS119 STOPPER
Q607 2SA639S ECL
Q605 2SA1175 OSC CONTROL
Q606 2SC2785 OSC CONTROL
D608 ISS119 STOPPER
D610 ISS119 PROTECT
TP91 +B
A
3.2Vp-p (H)
3.5Vp-p (H)
4.8Vp-p (H)
500Vp-p (H)
3Vp-p
0.25μSEC

[ELECT] S3 [TERMINAL] C [R • G • B OUT] N [INF AMP] L [INDICATOR] Z [JACK]

O P Q R S T U V W X Y Z A1 B1 C1 D1 E1



5-4. PRINTED WIRING BOARD

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken with a color-bar signal input.
- : adjustment for repair.
- ——— : B + bus
- ----- : B – bus

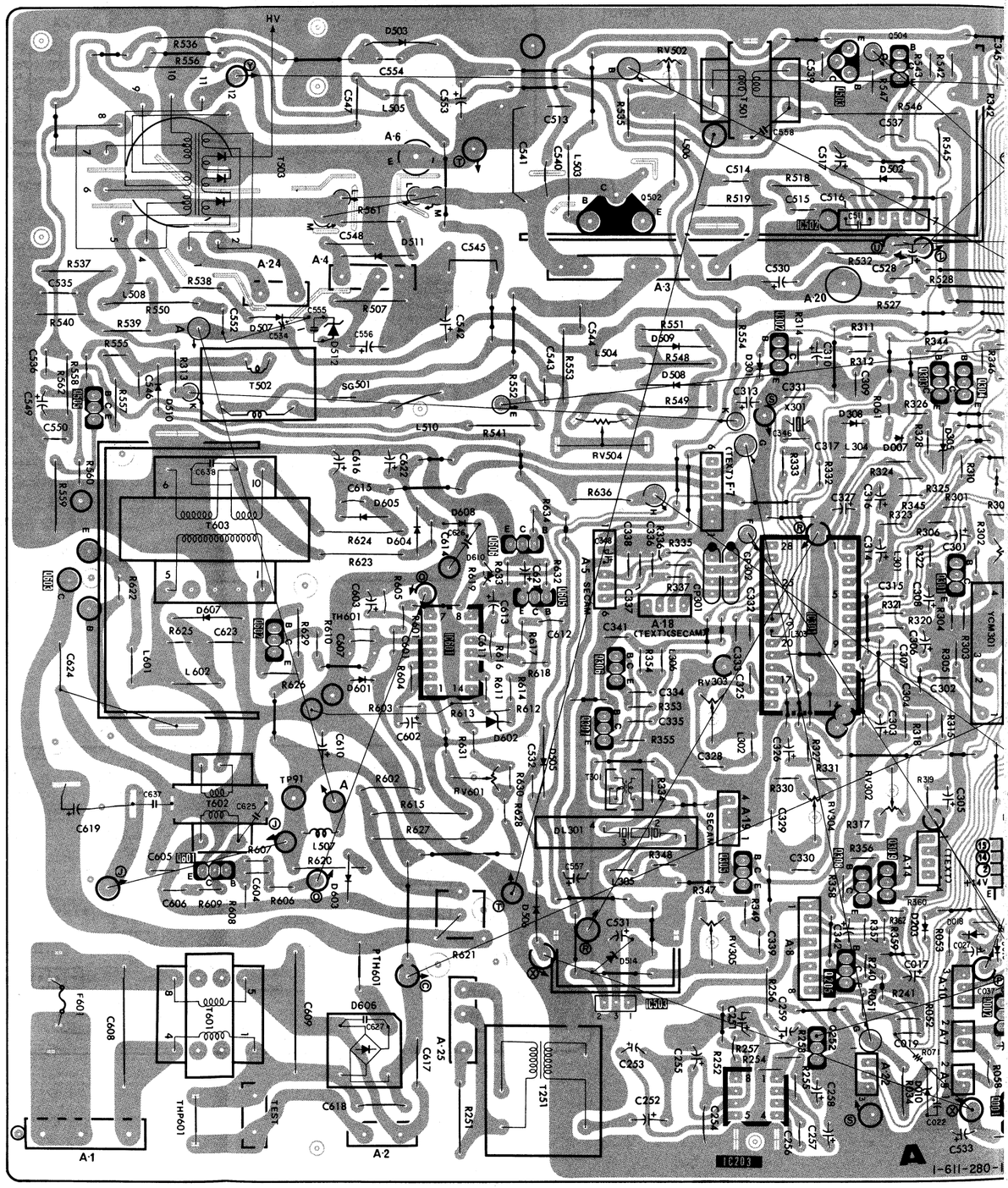
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A B C D E F G H I J

1 2 3 4 5 6 7 8 9

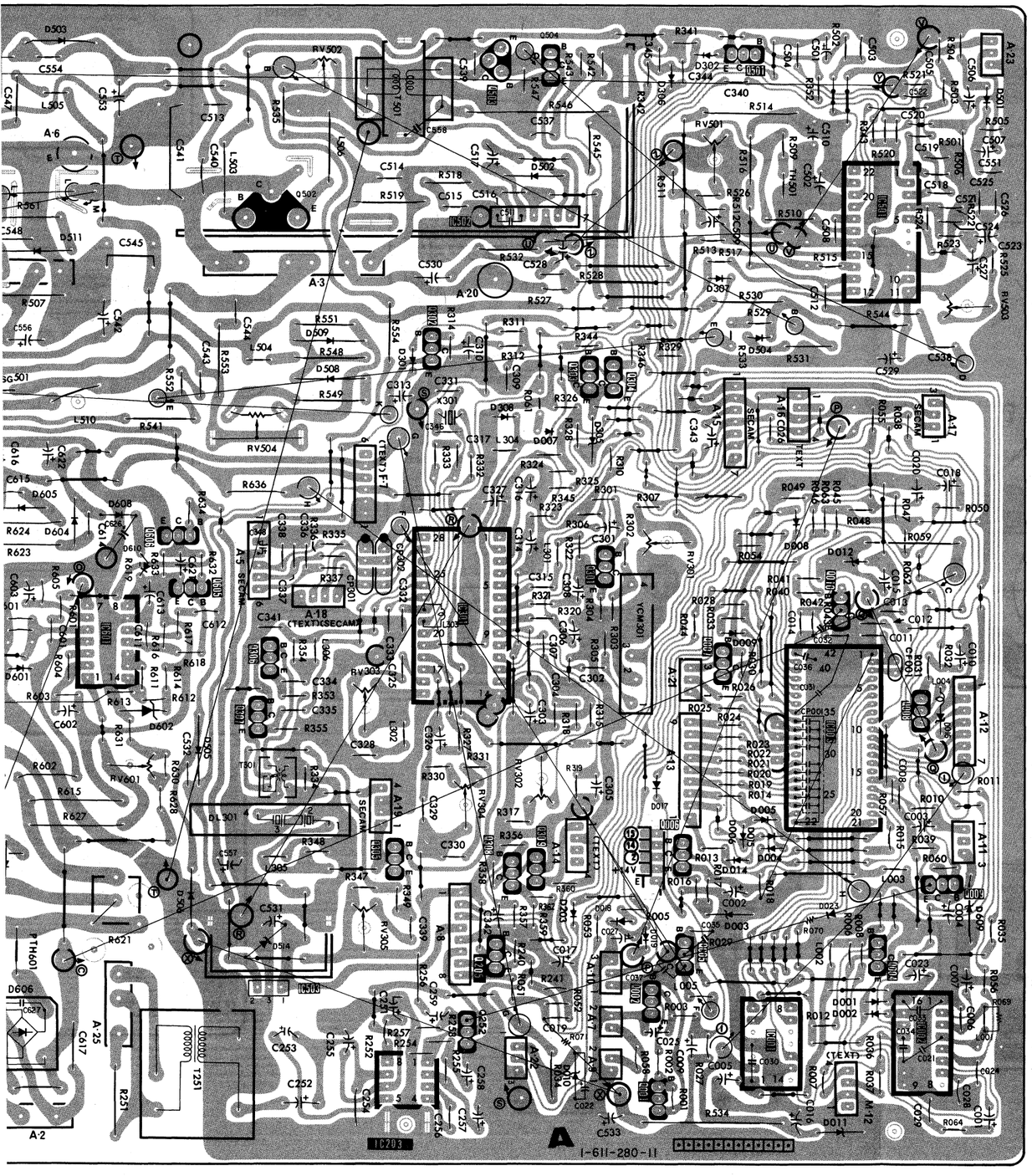
– Conductor Side –

[A Board]


HV
R536
R556
D503
C554
RV502
C553
L505
C513
C541
C540
L503
L506
C547
T503
A-6
R561
C548
D511
C545
A-4
A-24
R537
C535
L508
R538
R550
C552
C555
R507
C542
A-3
A-20
R540
R539
D507
C534
C556
D512
R555
R527
R551
D509
R548
R554
D508
R549
C544
L504
R553
R552
SG501
C543
C546
R557
D510
C549
C550
L510
R541
RV504
R636
C615
C616
C492
D605
D608
D604
R624
R623
T603
C638
R622
C602
C332
C341
C612
R632
R634
R635
A-5 SECAM
A-18 (TEXT)(SECAM)
R337
CP301
D607
R625
C623
C624
L601
L602
R626
TH601
R605
R604
C603
C601
R610
C607
D601
R609
R606
R603
C602
R611
R613
R612
R614
R618
D602
C610
R602
R615
R627
TP91
T602
C625
C637
C619
L507
R607
R620
D603
C605
C606
R608
C604
R621
D514
D606
C627
TH601
C609
C608
F601
T601
THP601
TEST
C618
A-25
C617
T251
R251
C253
C255
R252
C252
C254
R257
R254
C256
C257
C258
C533
A-1
A-2
A-26
IC203
A
1-611-280-
C504
R543
R542
C539
C547
R546
C537
R545
C517
D502
R544
C514
R518
R519
C515
C516
C511
C502
R532
C528
R528
C530
R534
C510
R311
R314
R344
R346
C309
R312
C331
C313
X301
C346
D308
D007
R326
R328
R330
C317
L304
R333
R335
R324
C327
C314
R325
R345
R323
R301
R307
R306
C301
C306
R304
R305
C302
C304
C303
R318
R315
C326
C329
R331
R330
R317
R356
C330
C557
L305
R348
R347
R349
C531
RV305
C339
R358
R360
D015
R362
R359
R357
C342
C027
C017
R240
R241
R051
R052
C019
R07
R056
C022
C034
D010
R253
R255
R256
C259
C225
C335
R355
C328
L302
C334
R333
C925
RV303
R354
L306
C336
R336
C338
R337
CP601
C332
C341
C612
R632
R634
R635
A-5 SECAM
A-18 (TEXT)(SECAM)

A [Y&CHROMA AMP, H • V SYNC, POWER SUPPLY, AF OUT, SYSTEM CONTROL]

F G H I J K L M N O P Q R S



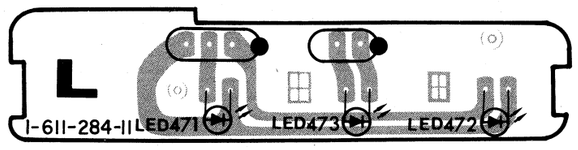
IC , Q	D	ADJ
503 504 501	503 302 306 501	RV502
		RV501
502 IC502 , IC501	502 511	
	307 507,512	RV503
302 303,304	509 504 510 301 508	
505	308 305	RV504
606	605,608 604 008 610	RV301
603 301 605	012	
602, IC301 010 IC601 306 007	607 009 601	RV303
307 008 IC003	602 016 505 017	RV601 RV304 RV302
601 305 308 006 309 009	005 006 015 603 014 004 506 609	
205 005 004 IC503 002	023,003 203 018 514 019 001 002	RV305
252 IC001 , IC002	606 010	
IC203 001	011	

H1 [CUSTOMER CONTROL] H2 [RELAY SWITCH] S1 [TUNER, VIF] S2 [SELECT] S3 [TERMINAL] C [R • G • B OUT] N [INF AMP] L [INDICATOR]

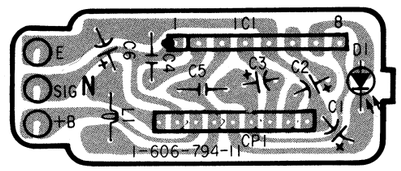
A B C D E F G H I J K L M

1 2 3 4 5 6 7 8 9 10

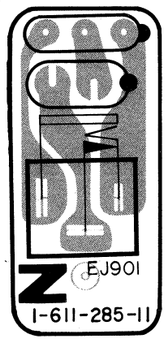
[L Board]



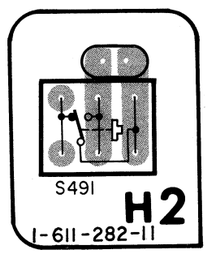
[N Board]



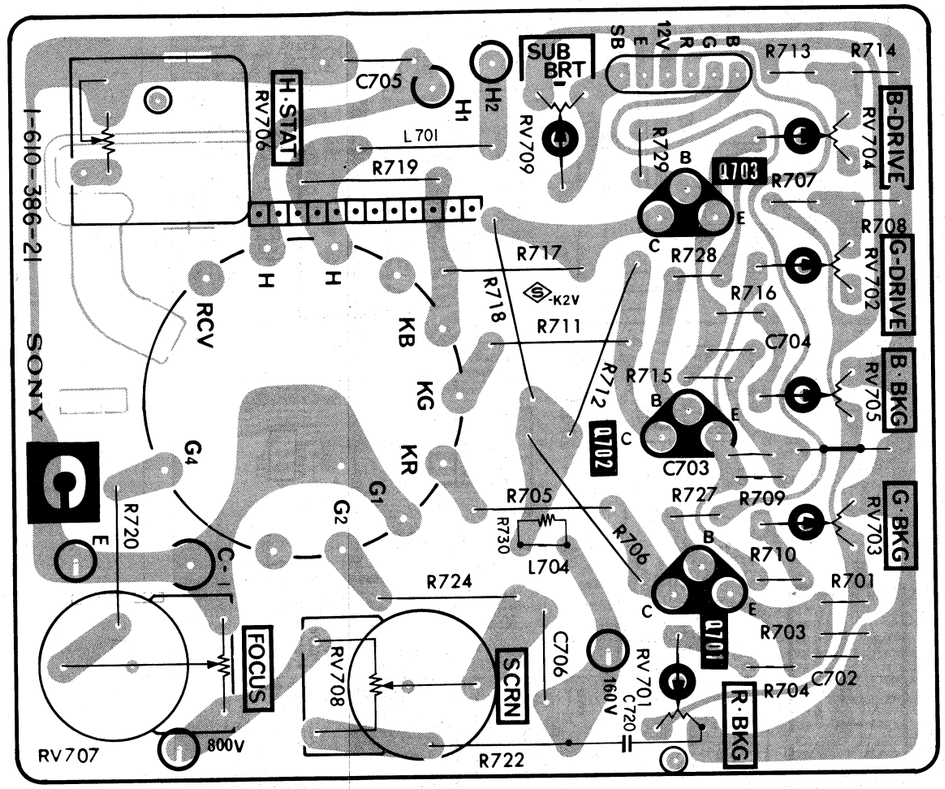
[Z Board]



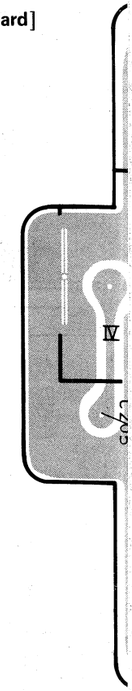
[H2 Board]



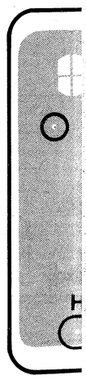
[C Board]



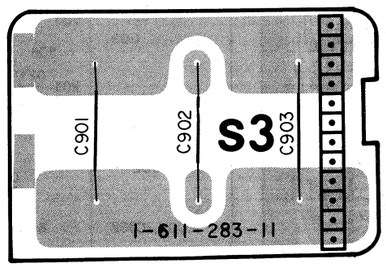
[S1 Board]



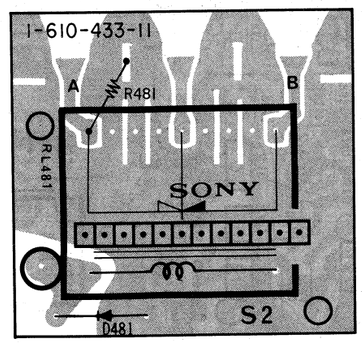
[H1 Board]



[S3 Board]



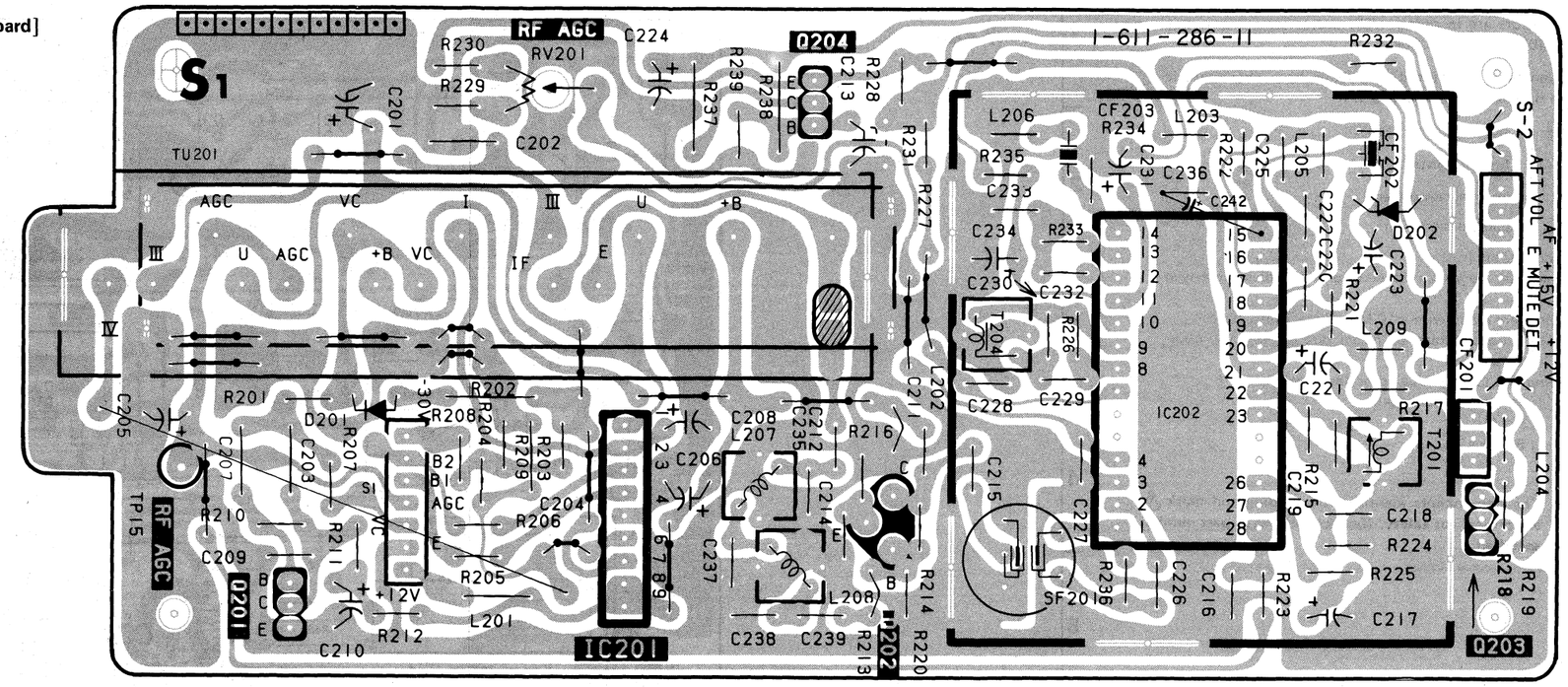
[S2 Board]



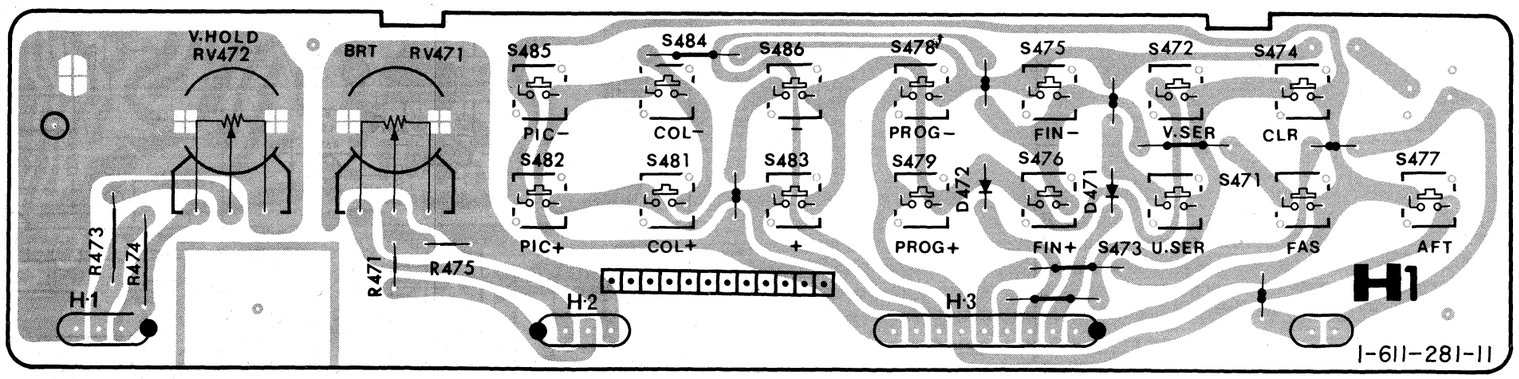
OUT] [N] [INF AMP] [L] [INDICATOR] [Z] [JACK]

K L M N O P Q R S T U V W

[S1 Board]

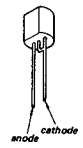


[H1 Board]

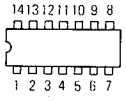


5-5. SEMICONDUCTORS

μPC574J



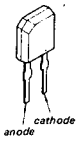
μPC1394C
M58657P



2SA1048
2SC2458

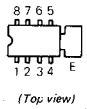
2SC2958
2SD774

PH302B

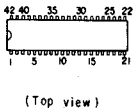


RD11E-B2 **RD6.2E-N2**
RD3.0EL2 **US1035**
RD30E-B4 **1N4148H**
RD4.3E-B1 **1S1555**
RD5.1E-L3 **1S2076**
RD5.1FB2 **1S2473**
RD5.6E-B2

μPC575C
μPC575C2



CX523-013P



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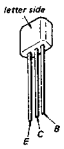
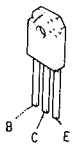
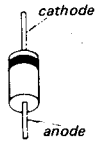
2SC2785

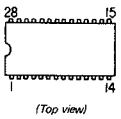


2SC3153
2SD1396

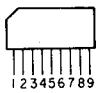




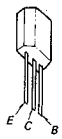
μPC1365C
CX20015A



LA7920

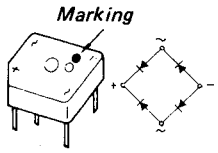


2SC633
2SC634

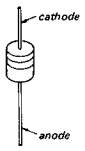


2SD789

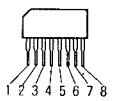
S3WB60Z



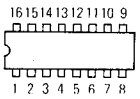
1SS119
1SS120
1SS133
1SS148



μPC1373H

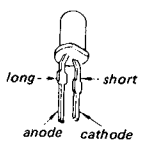


M50143-002P

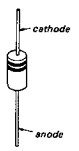


2SC1128
2SC2009

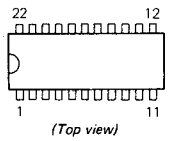
TLG124A
TLR124



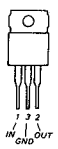
EQB01-05 **ERC24-06S**
EQB01-30 **ERC25-06S**
ERB81-004 **SIB01-02**



μPC1377C

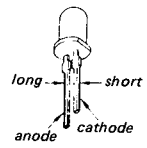


NJM7812B

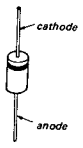


2SC2278

TLR147

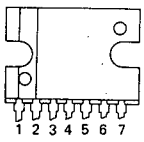


ERB12-02RK **RD5.1FB2**
ERB12-04RK **RGP01-17**
ERB44-04 **RGP10G**
ES1F **10E2**
GP08D

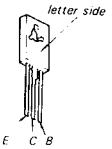


2SA639S **2SC1364**
2SA733 **2SC945**
2SC1363

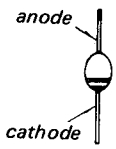
μPC1378H-L



2SC2688

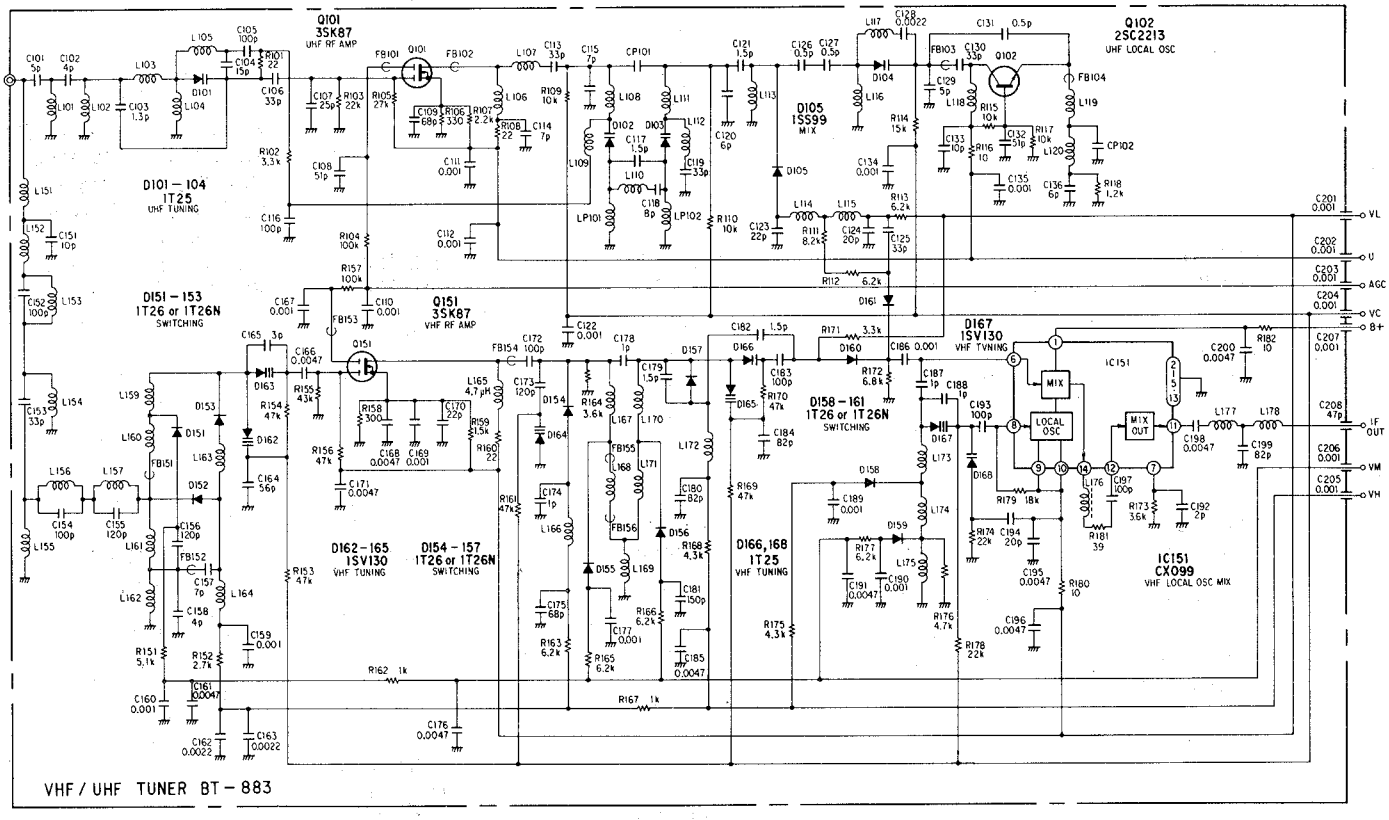


V19E



5-6. TUNER SCHEMATIC DIAGRAM

- BT-883



Note: Tuner reference numbers are not included in the Electrical Parts List.

SECTION6
EXPLODED VIEWS

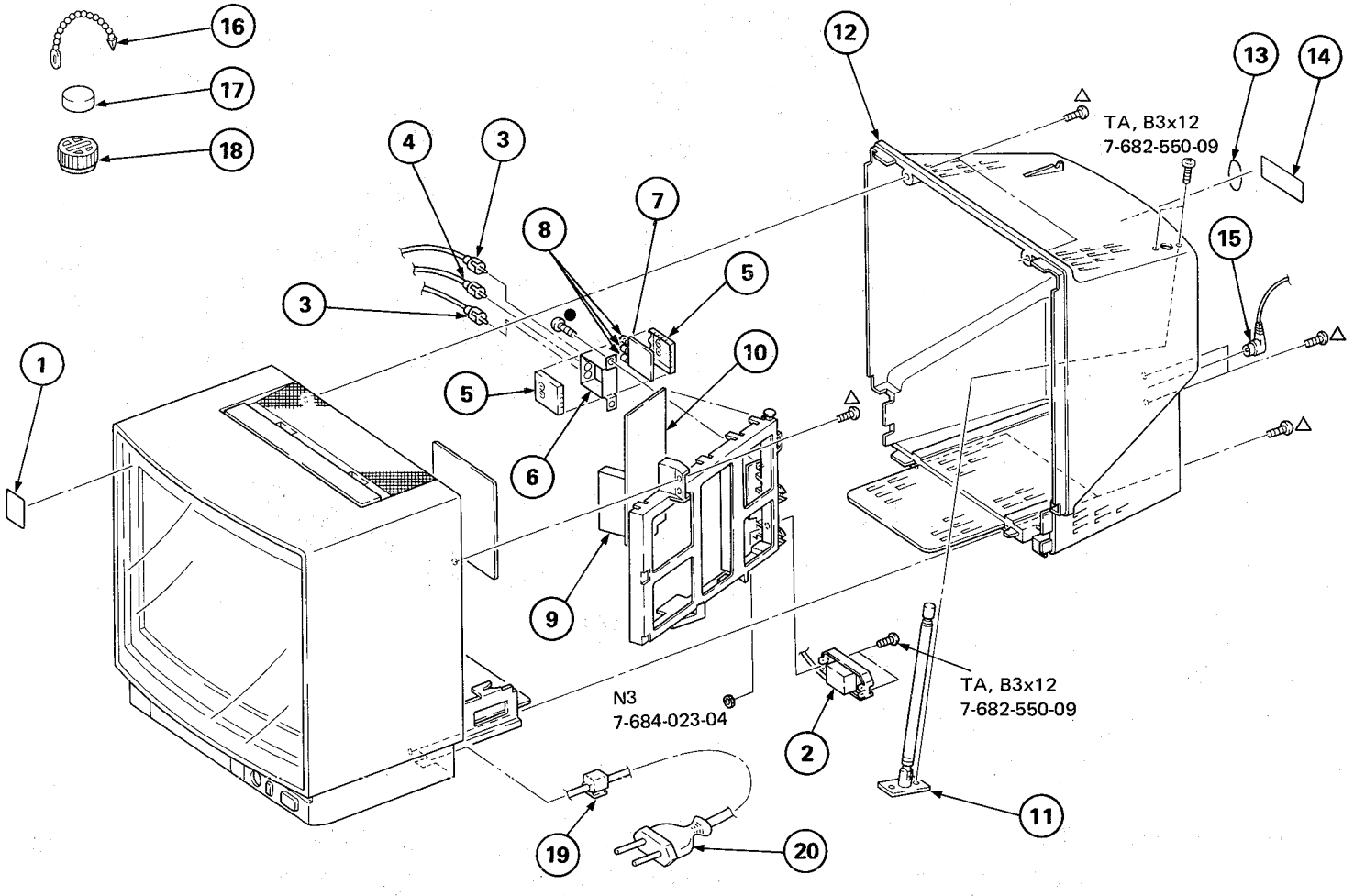
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(1) BACK COVER

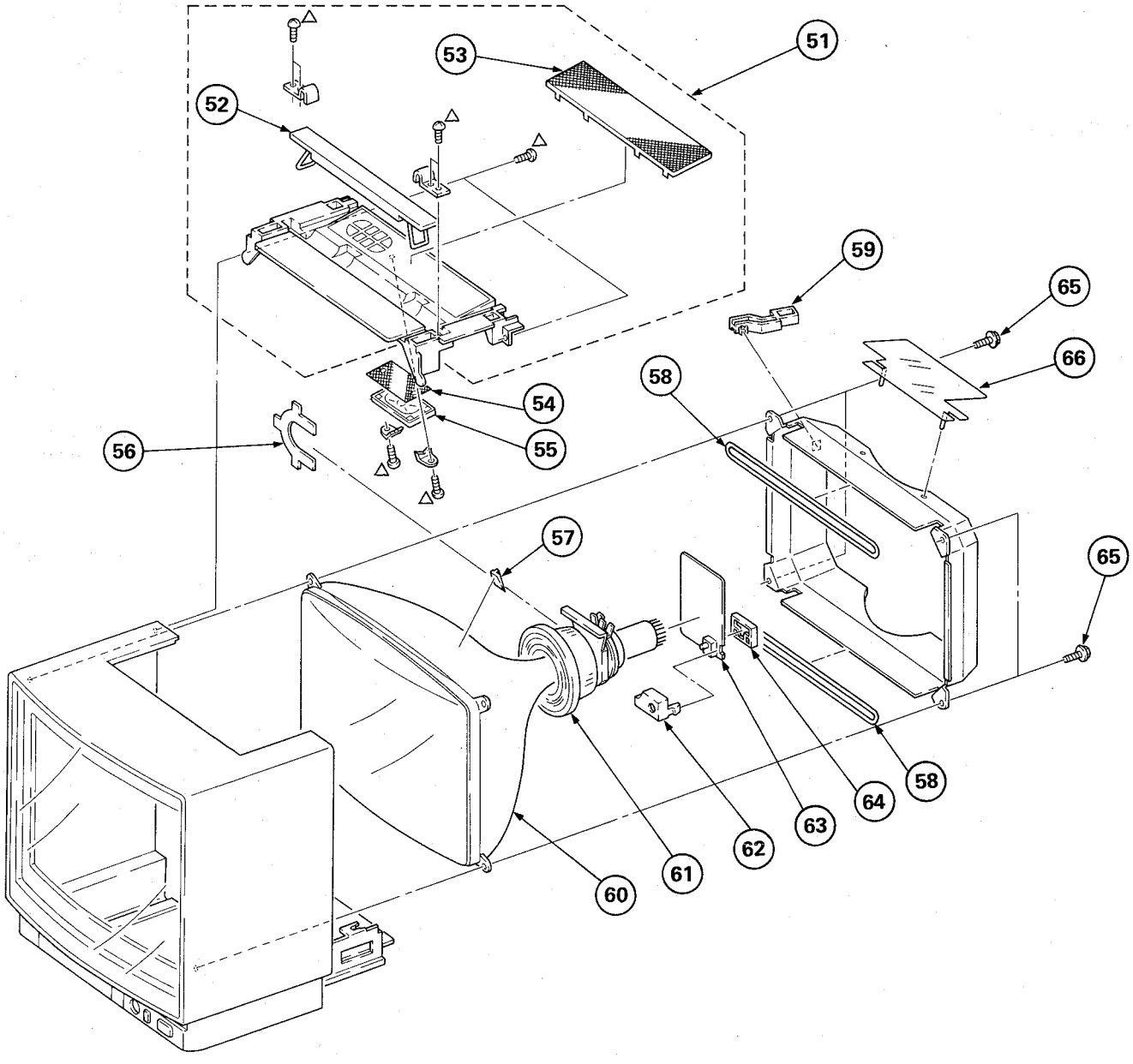
●: TA, BV3x12 7-685-648-71
△: TA, BV4x16 7-685-663-71



No.	Part No.	Description	Remark
1	3-703-705-01	STICKER, SONY SYMBOL (30)	
2	⚠1-536-683-00	CONNECTOR, COAXIAL ANTENNA	
3	♦1-557-024-00	CABLE (WITH PIN)	
4	♦1-557-056-00	CABLE, P-P	
5	♦4-368-114-00	CASE (LID), RELAY	
6	♦4-368-115-00	CASE (MAIN), RELAY	
7	♦1-610-433-00	S2, BOARD	
8	♦1-507-900-00	JACK	
9	⚠1-463-421-21	TUNER, ET (BT-883)	
10	♦A-1355-079-A	S1 BOARD, COMPLETE	
11	1-501-152-00	ROD ANTENNA, TYPE B	
12	4-368-132-11	COVER, BACK	
13	3-703-269-00	LABEL, SEV	
14	♦4-368-152-01	LABEL, MODEL NUMBER	
15	♦1-556-565-21	CABLE (PAL.PIN)	
16	4-308-870-00	CLIP, LEAD WIRE	
17	1-452-032-00	MAGNET, DISK; 10MMφ	
18	1-452-094-00	MAGNET, ROTATABLE DISK;15MMφ	
19	⚠4-022-115-00	HOLDER, AC CORD	
20	⚠1-551-908-31	CORD, POWER, EULO PLUG	

(2) PICTURE TUBE

△: TA, BV4x16 7-685-663-71



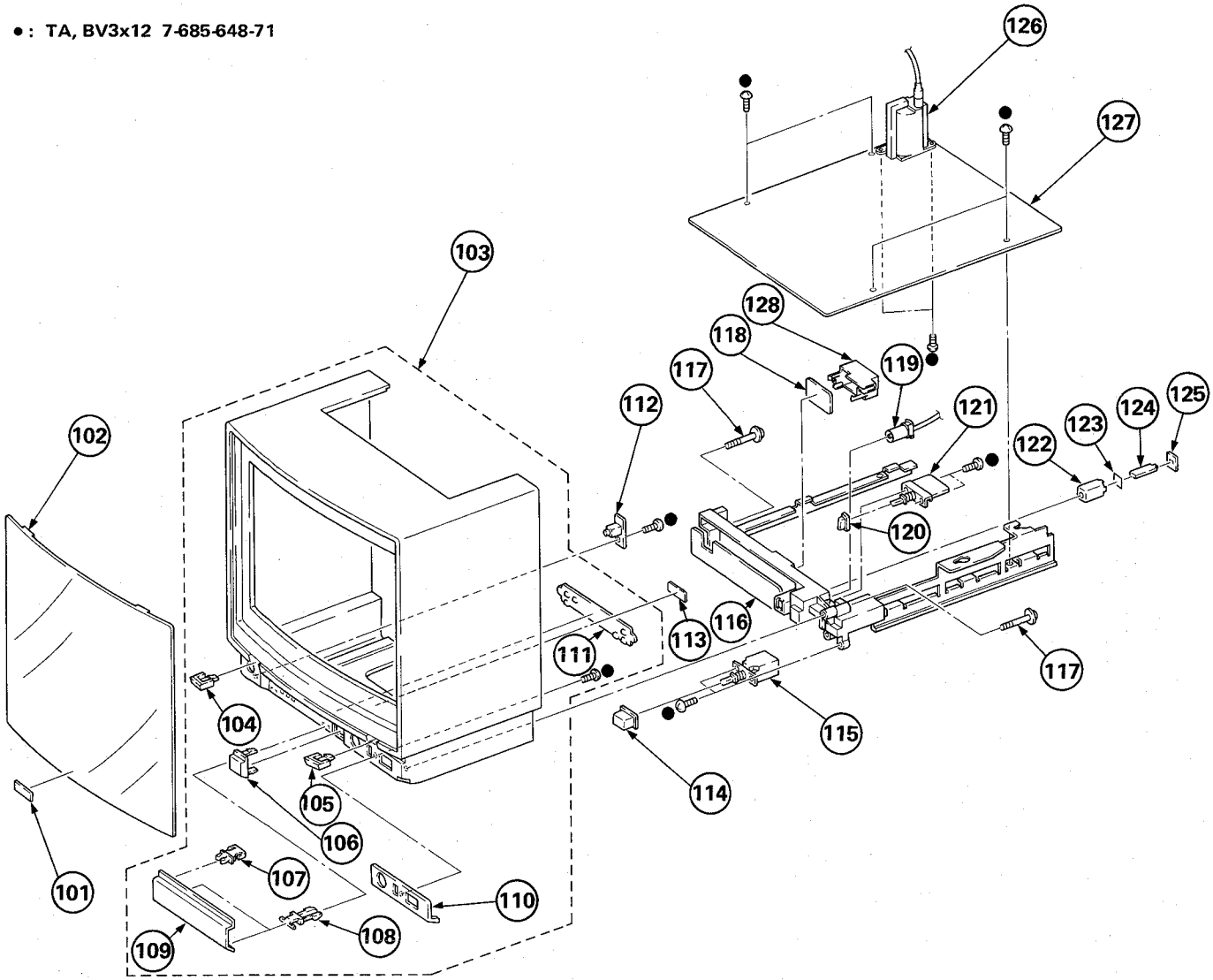
No.	Part No.	Description	Remark
51	X-4368-107-1	PLATE ASSY, TOP	52, 53
52	X-4368-106-1	HANDLE ASSY	
53	4-368-127-11	PLATE, ORNAMENTAL, SPEAKER	
54	♣:4-368-112-00	SHEET, DUST PROTECTION	
55	1-503-239-00	SPEAKER	
56	1-452-277-00	MAGNET, BMC	
57	3-703-003-00	SPACER, DY	
58	⚠1-426-145-00	COIL, DEGAUSSING	

No.	Part No.	Description	Remark
59	♣:4-346-339-00	HOLDER, HV CABLE	
60	⚠8-735-550-05	CRT (A34JBU00X)	
61	⚠1-451-230-00	DEFLECTION YOKE (SY-125)	
62	♣:4-365-803-00	COVER (MAIN), CV CONTROL	
63	♣:A-1330-478-A	C BOARD, COMPLETE	
64	♣:4-365-804-00	COVER (REAR LID), CV CONTROL	
65	4-365-808-00	SCREW (5), TAPPING	
66	♣:4-368-138-00	INSULATOR	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(3) BEZEL ASSY

● : TA, BV3x12 7-685-648-71



No.	Part No.	Description	Remark
101	♣:X-3701-079-0	EMBLEM (SMALL) ASSY, SONY	
102	4-368-129-00	FILTER	
103	X-4368-105-1	BEZEL ASSY	104-111
104	4-368-103-11	STOPPER (LEFT), FILTER	
105	4-368-104-11	STOPPER (RIGHT), FILTER	
106	♣:4-368-118-00	FILTER, RAY CATCHER	
107	4-352-034-00	CATCHER, PUSH	
108	4-334-917-00	SHAFT	
109	4-368-117-11	DOOR	
110	4-368-130-11	COVER, TERMINAL	
111	4-368-155-01	BUTTON (EC), MULTI	
112	♣:1-611-285-11	Z, BOARD	
113	♣:1-611-284-11	L, BOARD	
114	4-368-105-00	BUTTON, POWER	

No.	Part No.	Description	Remark
115	⚠:1-553-225-00	SWITCH, PUSH	
116	♣:1-611-281-11	H1, BOARD	
117	4-319-520-00	SCREW, SPECIAL (+PW4X30)	
118	♣:1-611-283-11	S3, BOARD	
119	1-557-194-11	SOCKET, PAL ANTENNA (WITH CABLE)	
120	4-368-106-00	BUTTON, SELECTION	
121	♣:1-611-282-11	H2, BOARD	
122	♣:4-342-117-00	CASE, SHIELD (MAIN), R	
123	♣:4-333-624-00	FILM (N), SPECIAL	
124	♣:1-606-794-00	N, BOARD	
125	♣:4-342-118-00	LID, SHIELD CASE, R	
126	⚠:1-439-294-21	TRANSFORMER ASSY, FLYBACK	
127	♣:A-1295-807-A	A BOARD, COMPLETE	
128	♣:4-368-169-01	COVER, INSULATING	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

SECTION7
ELECTRICAL PARTS LIST

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

• Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
• MF : μF, PF : μμF

RESISTORS
• All resistors are in ohms
• F : nonflammable

COILS
• MMH : mH, UH : μH

Ref.No.	Part No.	Description	Remark
	♦:A-1295-807-A	A BOARD, COMPLETE **********	
	4-303-483-00	HEAD, WASHER, TAPPING SCREW	
	♦:4-363-404-00	HOLDER, IC	
	4-363-414-00	SPACER, MICA	
	♦:4-370-012-01	HOLDER (REG OUT), TRANSISTOR	
		CONNECTOR	
A1	♦:1-506-349-21	3P PLUG (L)	
A2	♦:1-508-786-00	2P PLUG (M)	
A3	♦:1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P	
A4	♦:1-508-765-00	3P PLUG (M)	
A5	♦:1-560-126-00	PLUG, CONNECTOR (2.5MM PITCH)	
A7	♦:1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
A8	♦:1-560-128-00	PLUG, CONNECTOR (2.5MM PITCH)	
A9	♦:1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
A10	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A11	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A12	♦:1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P	
A13	♦:1-560-129-00	PLUG, CONNECTOR (2.5MM) 9P	
A14	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
A15	♦:1-560-127-00	PLUG, CONNECTOR (2.5MM PITCH)	
A16	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
A17	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)	
A18	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
A19	♦:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)	
A20	♦:1-508-784-00	1P PLUG	
A21	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A22	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A23	♦:1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P	
A24	♦:1-508-786-00	2P PLUG (M)	
A25	♦:1-508-765-00	3P PLUG (M)	
		CAPACITOR	
C001	1-123-380-00	ELECT 1MF 20% 50V	
C002	1-123-306-00	ELECT 47MF 20% 10V	
C003	1-123-356-00	ELECT 10MF 20% 16V	
C004	1-123-306-00	ELECT 47MF 20% 10V	
C005	1-123-333-00	ELECT 100MF 20% 16V	
C006	1-102-516-00	CERAMIC 27PF 5% 50V	
C007	1-123-380-00	ELECT 1MF 20% 50V	
C008	1-102-824-00	CERAMIC 470PF 5% 50V	
C009	1-123-380-00	ELECT 1MF 20% 50V	
C010	1-123-381-00	ELECT 2.2MF 20% 50V	
C011	1-102-973-00	CERAMIC 100PF 5% 50V	
C012	1-102-973-00	CERAMIC 100PF 5% 50V	
C013	1-130-632-00	FILM 0.1MF 5% 50V	
C014	1-102-973-00	CERAMIC 100PF 5% 50V	
C015	1-123-356-00	ELECT 10MF 20% 50V	
C016	1-123-380-00	ELECT 1MF 20% 50V	
C017	1-123-380-00	ELECT 1MF 20% 50V	
C018	1-123-381-00	ELECT 2.2MF 20% 50V	
C019	1-101-005-00	CERAMIC 0.022MF 50V	
C020	1-123-381-00	ELECT 2.2MF 20% 50V	
C021	1-102-963-00	CERAMIC 33PF 5% 50V	
C022	1-123-380-00	ELECT 1MF 20% 50V	
C023	1-123-354-00	ELECT 3.3MF 20% 50V	
C024	1-102-119-00	CERAMIC 0.0015MF 10% 50V	
C025	1-123-356-00	ELECT 10MF 20% 50V	
C026	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C027	1-123-356-00	ELECT 10MF 20% 16V	
C028	1-102-973-00	CERAMIC 100PF 5% 50V	
C029	1-102-973-00	CERAMIC 100PF 5% 50V	
C030	1-101-004-00	CERAMIC 0.01MF 50V	
C031	1-101-004-00	CERAMIC 0.01MF 50V	
C032	1-102-973-00	CERAMIC 100PF 5% 50V	
C033	1-108-587-00	MYLAR 0.022MF 5% 50V	
C034	1-102-121-00	CERAMIC 0.0022MF 10% 50V	
C035	1-161-328-00	CERAMIC 0.0047MF 50V	
C036	1-102-978-00	CERAMIC 220PF 5% 50V	
C251	1-123-318-00	ELECT 33MF 20% 16V	
C252	1-123-364-00	ELECT 1000MF 20% 50V	
C253	1-123-322-00	ELECT 330MF 20% 16V	
C254	1-108-389-00	MYLAR 0.1MF 10% 100V	
C255	1-123-324-00	ELECT 1000MF 20% 16V	
C256	1-102-973-00	CERAMIC 100PF 5% 50V	
C257	1-123-333-00	ELECT 100MF 20% 16V	
C258	1-123-328-00	ELECT 4.7MF 20% 25V	
C259	1-123-356-00	ELECT 10MF 20% 16V	
C301	1-123-356-00	ELECT 10MF 20% 16V	
C302	1-101-004-00	CERAMIC 0.01MF 50V	
C303	1-123-380-00	ELECT 1MF 20% 50V	
C304	1-130-636-00	FILM 0.22MF 5% 50V	
C305	1-123-380-00	ELECT 1MF 20% 50V	
C306	1-123-354-00	ELECT 3.3MF 20% 50V	
C307	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C308	1-123-380-00	ELECT 1MF 20% 50V	
C309	1-108-383-00	MYLAR 0.033MF 10% 100V	
C310	1-123-354-00	ELECT 3.3MF 20% 50V	
C313	1-123-379-00	ELECT 0.47MF 20% 50V	
C314	1-131-371-00	TANTALUM 10MF 20% 16V	
C315	1-101-880-00	CERAMIC 47PF 5% 50V	
C316	1-123-354-00	ELECT 3.3MF 20% 50V	
C317	1-102-852-00	CERAMIC 47PF 5% 50V	
C325	1-102-850-00	CERAMIC 56PF 5% 50V	
C326	1-123-379-00	ELECT 0.47MF 20% 50V	
C327	1-123-356-00	ELECT 10MF 20% 16V	
C328	1-102-887-00	CERAMIC 47PF 5% 50V	
C329	1-108-385-00	MYLAR 0.047MF 10% 100V	
C330	1-108-385-00	MYLAR 0.047MF 10% 100V	
C331	1-102-852-00	CERAMIC 47PF 5% 50V	
C332	1-102-513-00	CERAMIC 18PF 5% 50V	
C333	1-101-880-00	CERAMIC 47PF 5% 50V	
C334	1-102-129-00	CERAMIC 0.01MF 10% 50V	

Ref.No.	Part No.	Description			Remark
C335	1-102-129-00	CERAMIC	0.01MF	10%	50V
C336	1-102-947-00	CERAMIC	10PF	5%	50V
C337	1-102-947-00	CERAMIC	10PF	5%	50V
C338	1-102-947-00	CERAMIC	10PF	5%	50V
C339	1-102-129-00	CERAMIC	0.01MF	10%	50V
C340	1-108-561-00	MYLAR	0.0018MF	5%	50V
C341	1-102-523-00	CERAMIC	56PF	5%	50V
C342	1-123-356-00	ELECT	10MF	20%	16V
C343	1-123-356-00	ELECT	10MF	20%	16V
C344	1-102-978-00	CERAMIC	220PF	5%	50V
C345	1-108-367-00	MYLAR	0.0015MF	10%	100V
C346	1-102-518-00	CERAMIC	33PF	5%	50V
C348	1-123-333-00	ELECT	100MF	20%	16V
C501	1-123-381-00	ELECT	2.2MF	20%	50V
C502	1-123-321-00	ELECT	220MF	20%	16V
C503	1-108-367-00	MYLAR	0.0015MF	10%	100V
C504	1-108-385-00	MYLAR	0.047MF	10%	100V
C505	1-108-384-00	MYLAR	0.039MF	10%	100V
C506	1-123-380-00	ELECT	1MF	20%	50V
C507	1-123-380-00	ELECT	1MF	20%	50V
C508	1-130-640-00	FILM	0.47MF	5%	50V
C509	1-123-356-00	ELECT	10MF	20%	16V
C511	1-108-837-00	MYLAR	0.01MF	5%	50V
C512	1-108-595-00	MYLAR	0.047MF	5%	50V
C513	1-108-379-00	MYLAR	0.015MF	10%	100V
C514	1-108-377-00	MYLAR	0.01MF	10%	100V
C515	1-108-385-00	MYLAR	0.047MF	10%	100V
C516	1-102-228-00	CERAMIC	470PF	10%	500V
C517	1-123-360-00	ELECT	100MF	20%	50V
C518	1-102-228-00	CERAMIC	470PF	10%	500V
C519	1-108-377-00	MYLAR	0.01MF	10%	100V
C520	1-102-115-00	CERAMIC	560PF	10%	50V
C521	1-108-381-00	MYLAR	0.022MF	10%	100V
C522	1-102-989-00	CERAMIC	68PF	10%	500V
C523	1-123-380-00	ELECT	1MF	20%	50V
C524	1-108-381-00	MYLAR	0.022MF	10%	100V
C525	1-108-230-00	MYLAR	0.0022MF	10%	50V
C526	1-130-024-00	FILM	0.0033MF	5%	50V
C527	1-123-380-00	ELECT	1MF	20%	50V
C528	1-123-381-00	ELECT	2.2MF	20%	50V
C529	1-123-321-00	ELECT	220MF	20%	16V
C530	1-124-190-00	ELECT	680MF	10%	35V
C531	1-123-334-00	ELECT	220MF	20%	25V
C532	1-102-038-00	CERAMIC	0.001MF		500V
C533	1-121-999-00	ELECT	10MF		160V
C534	1-121-999-00	ELECT	10MF		160V
C535	1-108-425-00	MYLAR	0.022MF	10%	200V
C536	1-102-038-00	CERAMIC	0.001MF		500V
C537	1-123-228-00	ELECT	1MF	20%	50V
C538	1-130-640-00	FILM	0.47MF	5%	50V
C539	1-102-030-00	CERAMIC	330PF	10%	500V
C540	1-102-327-00	CERAMIC	330PF	15%	1.5KV

Ref.No.	Part No.	Description			Remark
C541	⚠1-136-061-00	FILM	0.0078MF	3%	2KV
C542	1-123-024-00	ELECT	33MF		160V
C543	1-102-002-00	CERAMIC	680PF	10%	500V
C544	1-102-212-00	CERAMIC	820PF	10%	500V
C545	1-130-684-00	FILM	0.33MF	5%	200V
C546	1-108-379-00	MYLAR	0.015MF	10%	100V
C547	1-136-060-00	FILM	0.047MF	5%	400V
C548	1-102-223-00	CERAMIC	0.0047MF	10%	2KV
C549	1-123-380-00	ELECT	1MF	20%	50V
C550	1-108-381-00	MYLAR	0.022MF	10%	100V
C551	1-108-377-00	MYLAR	0.01MF	10%	100V
C552	1-108-621-11	MYLAR	0.012MF	10%	100V
C553	1-123-349-00	ELECT	1000MF	20%	35V
C554	1-102-038-00	CERAMIC	0.001MF		500V
C555	1-102-038-00	CERAMIC	0.001MF		500V
C556	1-123-005-00	ELECT	22MF		250V
C557	1-123-323-00	ELECT	470MF	20%	16V
C558	1-108-680-00	FILM	0.001MF		200V
C601	1-123-021-00	ELECT	0.47MF	30%	50V
C602	1-123-381-00	ELECT	2.2MF	20%	50V
C603	1-123-354-00	ELECT	3.3MF	20%	50V
C604	1-108-381-00	MYLAR	0.022MF	10%	100V
C605	1-108-417-00	MYLAR	0.0047MF	10%	200V
C606	1-102-030-00	CERAMIC	330PF	10%	500V
C607	1-102-973-00	CERAMIC	100PF	5%	50V
C608	⚠1-108-745-00	MYLAR	0.22MF	20%	300V
C609	⚠1-108-745-00	MYLAR	0.22MF	20%	300V
C610	1-123-024-00	ELECT	33MF		160V
C611	1-108-563-00	MYLAR	0.0022MF	5%	50V
C612	1-101-810-00	CERAMIC	100PF	5%	500V
C614	1-102-030-00	CERAMIC	330PF	10%	500V
C615	1-102-030-00	CERAMIC	330PF	10%	500V
C616	1-123-324-00	ELECT	1000MF	20%	16V
C617	⚠1-161-964-00	CERAMIC	0.0047MF		250V
C618	⚠1-161-964-00	CERAMIC	0.0047MF		250V
C619	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V
C621	1-123-379-00	ELECT	0.47MF	20%	50V
C622	1-123-335-00	ELECT	330MF	20%	25V
C623	1-162-116-00	CERAMIC	680PF	10%	2KV
C624	1-161-830-00	CERAMIC	0.0047MF		500V
C625	1-102-038-00	CERAMIC	0.001MF		500V
C626	1-123-335-00	ELECT	330MF		25V
C627	1-161-946-00	CERAMIC	0.0047MF		250V
C637	1-102-038-00	CERAMIC	0.001MF		500V
C638	1-101-006-00	CERAMIC	0.047MF		50V

FILTER

CF001	1-527-790-00	OSCILLATOR, CERAMIC

DIODE

D001	8-719-911-19	DIODE 1SS119
D002	8-719-911-19	DIODE 1SS119
D003	8-719-101-35	DIODE RD3.0E-L2
D004	8-719-911-19	DIODE 1SS119
D005	8-719-911-19	DIODE 1SS119

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

Ref.No.	Part No.	Description	Remark
D006	8-719-911-19	DIODE 1SS119	
D008	8-719-911-19	DIODE 1SS119	
D009	8-719-911-19	DIODE 1SS119	
D010	8-719-100-61	DIODE RD11E-B2	
D011	8-719-101-02	DIODE RD30E-B4	
D012	8-759-157-40	IC UPC574J	
D014	8-719-911-19	DIODE 1SS119	
D015	8-719-911-19	DIODE 1SS119	
D016	8-719-100-35	DIODE RD5.6E-B2	
D017	8-719-911-19	DIODE 1SS119	
D018	8-719-911-19	DIODE 1SS119	
D019	8-719-911-19	DIODE 1SS119	
D023	8-719-911-19	DIODE 1SS119	
D203	8-719-911-19	DIODE 1SS119	
D301	8-719-911-19	DIODE 1SS119	
D302	8-719-911-19	DIODE 1SS119	
D305	8-719-100-22	DIODE RD4.3E-B1	
D306	8-719-911-19	DIODE 1SS119	
D307	8-719-911-19	DIODE 1SS119	
D308	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D502	8-719-924-06	DIODE ERC24-06S	
D503	8-719-924-06	DIODE ERC24-06S	
D504	8-719-911-19	DIODE 1SS119	
D505	8-719-901-93	DIODE V19E	
D506	8-719-200-02	DIODE 10E2	
D507	8-719-924-06	DIODE ERC24-06S	
D508	8-719-920-04	DIODE ERB12-04RK	
D509	8-719-920-04	DIODE ERB12-04RK	
D510	8-719-920-04	DIODE ERB12-04RK	
D511	8-719-300-65	DIODE ES1F	
D512	8-719-931-30	DIODE EQB01-30	
D514	8-719-931-05	DIODE EQB01-05	
D601	8-719-911-19	DIODE 1SS119	
D602	8-719-102-74	DIODE RD6.2E-N2	
D603	8-719-920-04	DIODE ERB12-04RK	
D604	8-719-200-02	DIODE 10E2	
D605	8-719-982-04	DIODE ERB81-004	
D606	8-719-503-06	DIODE S3WB60Z	
D607	8-719-925-06	DIODE ERC25-06S	
D608	8-719-911-19	DIODE 1SS119	
D609	8-719-160-23	DIODE RD5.1F-B2	
D610	8-719-911-19	DIODE 1SS119	
		DELAY LINE	
DL301	1-415-122-31	DELAY LINE	
		CONNECTOR	
F7	♣:1-560-126-00	PLUG, CONNECTOR (2.5MM PITCH)	
		FUSE	
F601 ⚠	1-532-350-00	FUSE, TIME-LAG TA4	
	1-533-087-00	HOLDER,FUSE; F601	

Ref.No.	Part No.	Description	Remark
		IC	
IC001	8-759-600-92	IC M58657P	
IC002	8-759-600-62	IC M50143-002P	
IC003	8-759-600-89	IC CX523-013P	
IC203	8-759-157-52	IC UPC575C	
IC301	8-759-113-65	IC UPC1365C	
IC501	8-759-100-60	IC UPC1377C	
IC502	8-759-113-78	IC UPC1378H-L	
IC503	8-759-700-06	IC NJM7812B	
	♣:4-323-833-00	HEAT SINK, PIN OUT; IC503	
IC601	8-759-100-75	IC UPC1394C	
		COIL	
L001	1-408-411-00	MICRO INDUCTOR 15UH	
L002	1-408-428-00	MICRO INDUCTOR 390UH	
L003	1-408-403-00	MICRO INDUCTOR 3.3UH	
L004	1-407-179-00	MICRO INDUCTOR 1.2UH	
L005	1-408-605-00	MICRO INDUCTOR 15UH	
L301	1-408-409-00	MICRO INDUCTOR 10UH	
L302	1-408-415-00	MICRO INDUCTOR 33UH	
L303	1-408-942-00	MICRO INDUCTOR 3.3MMH	
L304	1-407-501-00	MICRO INDUCTOR 5.6MMH	
L305	1-408-408-00	MICRO INDUCTOR 8.2UH	
L306	1-408-414-00	MICRO INDUCTOR 27UH	
L503	1-408-349-00	COIL, CHOKE 1UH	
L504	1-407-496-00	MICRO INDUCTOR 2.2MMH	
L505	1-407-496-00	MICRO INDUCTOR 2.2MMH	
L506	1-407-366-00	RF CHOKE COIL 1.7UH	
L507	1-459-215-00	CORE COIL 120UH	
L508	1-459-404-00	COIL (WITH CORE) 24UH	
L510	1-459-348-00	COIL, VAR, FERRITE (HWC)	
L601	1-407-365-00	COIL, CHOKE (HIGH FREQUENCY) 0.7UH	
L602	1-408-300-00	MICRO INDUCTOR 6.8UH	
		CONNECTOR	
M12	♣:1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH) 4P	
		THERMISTOR	
PTH601	1-800-820-00	THERMISTOR, POWER	
		TRANSISTOR	
Q001	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q002	8-729-245-83	TRANSISTOR 2SC2458	
Q004	8-729-245-83	TRANSISTOR 2SC2458	
Q005	8-729-245-83	TRANSISTOR 2SC2458	
Q006	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q007	8-729-245-83	TRANSISTOR 2SC2458	
Q008	8-729-245-83	TRANSISTOR 2SC2458	
Q009	8-729-245-83	TRANSISTOR 2SC2458	
Q010	8-724-375-01	TRANSISTOR 2SC403C	
Q205	8-729-245-83	TRANSISTOR 2SC2458	
Q252	8-729-245-83	TRANSISTOR 2SC2458	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description	Remark
Q301	8-729-245-83	TRANSISTOR 2SC2458	
Q302	8-729-245-83	TRANSISTOR 2SC2458	
Q303	8-729-245-83	TRANSISTOR 2SC2458	
Q304	8-729-245-83	TRANSISTOR 2SC2458	
Q305	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q306	8-729-245-83	TRANSISTOR 2SC2458	
Q307	8-729-245-83	TRANSISTOR 2SC2458	
Q308	8-729-245-83	TRANSISTOR 2SC2458	
Q309	8-729-245-83	TRANSISTOR 2SC2458	
Q501	8-729-245-83	TRANSISTOR 2SC2458	
Q502	8-729-801-71	TRANSISTOR 2SD1396	
Q503	8-729-168-82	TRANSISTOR 2SC2688	
Q504	8-729-245-83	TRANSISTOR 2SC2458	
Q505	8-729-177-43	TRANSISTOR 2SD774	
Q601	8-729-195-82	TRANSISTOR 2SC2958	
Q602	8-729-163-93	TRANSISTOR 2SA639S	
Q603	8-729-801-69	TRANSISTOR 2SC3153	
Q605	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q606	8-729-245-83	TRANSISTOR 2SC2458	

RESISTOR

Ref.No.	Part No.	Description				Remark
R001	1-247-859-00	CARBON	15K	5%	1/6W	
R002	1-247-847-00	CARBON	4.7K	5%	1/6W	
R003	1-247-867-00	CARBON	33K	5%	1/6W	
R005	1-247-835-00	CARBON	1.5K	5%	1/6W	
R006	1-247-863-00	CARBON	22K	5%	1/6W	
R007	1-247-831-00	CARBON	1K	5%	1/6W	
R008	1-247-875-00	CARBON	68K	5%	1/6W	
R010	1-247-831-00	CARBON	1K	5%	1/6W	
R011	1-247-863-00	CARBON	22K	5%	1/6W	
R012	1-247-863-00	CARBON	22K	5%	1/6W	
R013	1-247-831-00	CARBON	1K	5%	1/6W	
R014	1-247-831-00	CARBON	1K	5%	1/6W	
R015	1-247-831-00	CARBON	1K	5%	1/6W	
R016	1-247-863-00	CARBON	22K	5%	1/6W	
R017	1-247-831-00	CARBON	1K	5%	1/6W	
R018	1-247-847-00	CARBON	4.7K	5%	1/6W	
R019	1-247-831-00	CARBON	1K	5%	1/6W	
R020	1-247-831-00	CARBON	1K	5%	1/6W	
R021	1-247-831-00	CARBON	1K	5%	1/6W	
R022	1-247-831-00	CARBON	1K	5%	1/6W	
R023	1-247-831-00	CARBON	1K	5%	1/6W	
R024	1-247-831-00	CARBON	1K	5%	1/6W	
R025	1-247-814-00	CARBON	200	5%	1/6W	
R026	1-247-814-00	CARBON	200	5%	1/6W	
R027	1-247-867-00	CARBON	33K	5%	1/6W	
R028	1-247-851-00	CARBON	6.8K	5%	1/6W	
R029	1-247-855-00	CARBON	10K	5%	1/6W	
R030	1-247-847-00	CARBON	4.7K	5%	1/6W	
R031	1-247-867-00	CARBON	33K	5%	1/6W	
R032	1-247-867-00	CARBON	33K	5%	1/6W	
R033	1-247-855-00	CARBON	10K	5%	1/6W	
R034	⚠1-246-991-00	CARBON	150	5%	1/8W	F

Ref.No.	Part No.	Description				Remark
R035	1-247-871-00	CARBON	47K	5%	1/6W	
R036	1-247-863-00	CARBON	22K	5%	1/6W	
R037	1-247-831-00	CARBON	1K	5%	1/6W	
R038	1-247-855-00	CARBON	10K	5%	1/6W	
R039	1-247-863-00	CARBON	22K	5%	1/6W	
R040	1-247-863-00	CARBON	22K	5%	1/6W	
R041	1-247-863-00	CARBON	22K	5%	1/6W	
R042	1-247-863-00	CARBON	22K	5%	1/6W	
R043	1-247-863-00	CARBON	22K	5%	1/6W	
R044	1-247-865-00	CARBON	27K	5%	1/6W	
R045	1-247-861-00	CARBON	18K	5%	1/6W	
R046	1-247-865-00	CARBON	27K	5%	1/6W	
R047	1-247-855-00	CARBON	10K	5%	1/6W	
R048	1-247-861-00	CARBON	18K	5%	1/6W	
R049	1-247-845-00	CARBON	3.9K	5%	1/6W	
R050	1-247-865-00	CARBON	27K	5%	1/6W	
R051	1-247-863-00	CARBON	22K	5%	1/6W	
R052	1-247-877-00	CARBON	82K	5%	1/6W	
R053	1-247-831-00	CARBON	1K	5%	1/6W	
R054	1-247-879-00	CARBON	100K	5%	1/6W	
R055	1-247-872-00	CARBON	51K	5%	1/6W	
R056	1-247-867-00	CARBON	33K	5%	1/6W	
R057	1-247-859-00	CARBON	15K	5%	1/6W	
R058	1-247-831-00	CARBON	1K	5%	1/6W	
R059	1-206-692-00	METAL OXIDE	15K	5%	2W	F
R060	1-247-863-00	CARBON	22K	5%	1/6W	
R062	1-247-861-00	CARBON	18K	5%	1/6W	
R063	1-247-861-00	CARBON	18K	5%	1/6W	
R064	1-247-807-00	CARBON	100	5%	1/6W	
R069	1-247-831-00	CARBON	1K	5%	1/6W	
R070	1-246-513-00	CARBON	47K	5%	1/4W	
R071	1-246-537-00	CARBON	470K	5%	1/4W	
R240	1-247-843-00	CARBON	3.3K	5%	1/6W	
R241	1-247-877-00	CARBON	82K	5%	1/6W	
R251	1-244-865-51	CARBON	470	5%	1/2W	
R252	1-247-835-00	CARBON	1.5K	5%	1/6W	
R253	1-247-883-00	CARBON	150K	5%	1/6W	
R254	1-247-871-00	CARBON	47K	5%	1/6W	
R255	1-247-881-00	CARBON	120K	5%	1/6W	
R256	1-246-497-00	CARBON	10K	5%	1/4W	
R257	1-247-863-00	CARBON	22K	5%	1/6W	
R301	1-247-831-00	CARBON	1K	5%	1/6W	
R302	1-247-817-00	CARBON	270	5%	1/6W	
R303	1-247-835-00	CARBON	1.5K	5%	1/6W	
R304	1-247-835-00	CARBON	1.5K	5%	1/6W	
R305	1-247-843-00	CARBON	3.3K	5%	1/6W	
R306	1-247-861-00	CARBON	18K	5%	1/6W	
R307	1-247-857-00	CARBON	12K	5%	1/6W	
R310	1-247-855-00	CARBON	10K	5%	1/6W	
R311	1-247-863-00	CARBON	22K	5%	1/6W	
R312	1-247-857-00	CARBON	12K	5%	1/6W	
R313	1-246-465-00	CARBON	470	5%	1/4W	
R314	1-247-863-00	CARBON	22K	5%	1/6W	
R315	1-247-843-00	CARBON	3.3K	5%	1/6W	
R317	1-247-835-00	CARBON	1.5K	5%	1/6W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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Ref.No.	Part No.	Description				Remark
R318	1-247-887-00	CARBON	220K	5%	1/6W	
R319	1-247-877-00	CARBON	82K	5%	1/6W	
R320	1-247-831-00	CARBON	1K	5%	1/6W	
R321	1-247-831-00	CARBON	1K	5%	1/6W	
R322	1-247-825-00	CARBON	560	5%	1/6W	
R323	1-247-807-00	CARBON	100	5%	1/6W	
R324	1-247-807-00	CARBON	100	5%	1/6W	
R325	1-247-885-00	CARBON	180K	5%	1/6W	
R326	1-247-849-00	CARBON	5.6K	5%	1/6W	
R327	1-247-839-00	CARBON	2.2K	5%	1/6W	
R328	1-247-831-00	CARBON	1K	5%	1/6W	
R329	1-247-829-00	CARBON	820	5%	1/6W	
R330	1-247-865-00	CARBON	27K	5%	1/6W	
R331	1-247-865-00	CARBON	27K	5%	1/6W	
R332	1-247-829-00	CARBON	820	5%	1/6W	
R333	1-247-831-00	CARBON	1K	5%	1/6W	
R334	1-247-827-00	CARBON	680	5%	1/6W	
R335	1-247-819-00	CARBON	330	5%	1/6W	
R336	1-247-819-00	CARBON	330	5%	1/6W	
R337	1-247-819-00	CARBON	330	5%	1/6W	
R341	1-247-831-00	CARBON	1K	5%	1/6W	
R342	1-247-850-00	CARBON	6.2K	5%	1/6W	
R343	1-247-815-00	CARBON	220	5%	1/6W	
R344	1-247-807-00	CARBON	100	5%	1/6W	
R345	1-247-855-00	CARBON	10K	5%	1/6W	
R346	1-247-855-00	CARBON	10K	5%	1/6W	
R347	1-247-815-00	CARBON	220	5%	1/6W	
R348	1-247-821-00	CARBON	390	5%	1/6W	
R349	1-247-815-00	CARBON	220	5%	1/6W	
R352	1-247-831-00	CARBON	1K	5%	1/6W	
R353	1-247-831-00	CARBON	1K	5%	1/6W	
R354	1-247-828-00	CARBON	750	5%	1/6W	
R355	1-247-831-00	CARBON	1K	5%	1/6W	
R356	1-247-851-00	CARBON	6.8K	5%	1/6W	
R357	1-247-851-00	CARBON	6.8K	5%	1/6W	
R358	1-247-831-00	CARBON	1K	5%	1/6W	
R359	1-247-835-00	CARBON	1.5K	5%	1/6W	
R360	1-247-831-00	CARBON	1K	5%	1/6W	
R362	1-247-828-00	CARBON	750	5%	1/6W	
R501	1-247-817-00	CARBON	270	5%	1/6W	
R502	1-247-817-00	CARBON	270	5%	1/6W	
R503	1-247-845-00	CARBON	3.9K	5%	1/6W	
R504	1-247-841-00	CARBON	2.7K	5%	1/6W	
R505	1-247-873-00	CARBON	56K	5%	1/6W	
R506	1-214-763-00	METAL	27K	1%	1/4W	
R507	1-202-847-00	SOLID	560K		1/2W	
R509	1-247-769-00	CARBON	2.7	5%	1/6W	
R510	1-214-771-00	METAL	56K	1%	1/4W	
R511	1-247-833-00	CARBON	1.2K	5%	1/6W	
R512	1-247-843-00	CARBON	3.3K	5%	1/6W	
R513	1-247-850-00	CARBON	6.2K	5%	1/6W	
R514	1-206-640-00	METAL OXIDE	100	5%	2W	F
R515	1-247-847-00	CARBON	4.7K	5%	1/6W	
R516	1-214-768-00	METAL	43K	1%	1/4W	

Ref.No.	Part No.	Description				Remark
R517	1-247-829-00	CARBON	820	5%	1/6W	
R518	1-247-783-00	CARBON	10	5%	1/8W	F
R519	1-244-859-00	CARBON	270	5%	1/2W	
R520	1-247-847-00	CARBON	4.7K	5%	1/6W	
R521	1-247-855-00	CARBON	10K	5%	1/6W	
R522	1-247-877-00	CARBON	82K	5%	1/6W	
R523	1-247-843-00	CARBON	3.3K	5%	1/6W	
R524	1-247-868-00	CARBON	36K	5%	1/6W	
R525	1-247-857-00	CARBON	12K	5%	1/6W	
R526	1-247-829-00	CARBON	820	5%	1/6W	
R527	1-247-853-00	CARBON	8.2K	5%	1/6W	
R528	1-247-857-00	CARBON	12K	5%	1/6W	
R529	1-247-877-00	CARBON	82K	5%	1/6W	
R530	1-213-158-00	METAL OXIDE	18K	5%	1W	F
R531	1-246-469-00	CARBON	680	5%	1/4W	
R532	1-212-364-00	METAL OXIDE	2.2	5%	1W	F
R534	1-206-745-00	METAL OXIDE	6.8K	5%	3W	F
R535	⚠1-246-994-00	CARBON	680	5%	1/8W	F
R536	⚠1-247-636-00	CARBON	0.47	5%	1/8W	F
R537	1-202-830-00	SOLID	10K		1/2W	
R538	⚠1-246-979-00	CARBON	1.2	5%	1/8W	F
R539	1-246-528-00	CARBON	200K	5%	1/4W	
R540	1-246-493-00	CARBON	6.8K	5%	1/4W	
R541	1-202-830-51	SOLID	10K		1/2W	
R542	1-247-871-00	CARBON	47K	5%	1/6W	
R543	1-247-847-00	CARBON	4.7K	5%	1/6W	
R544	1-247-809-00	CARBON	120	5%	1/6W	
R545	1-246-535-00	CARBON	390K	5%	1/4W	
R546	1-206-735-61	METAL OXIDE	2.7K	5%	3W	F
R547	1-247-827-00	CARBON	680	5%	1/6W	
R548	1-212-372-00	METAL OXIDE	10	5%	1W	F
R549	1-212-372-00	METAL OXIDE	10	5%	1W	F
R550	1-206-463-00	METAL OXIDE	10	5%	2W	F
R551	1-247-839-00	CARBON	2.2K	5%	1/8W	F
R552	1-247-863-00	CARBON	22K	5%	1/6W	
R553	1-213-139-00	METAL OXIDE	470	5%	1W	F
R554	⚠1-217-371-00	FUSIBLE	0.47	10%	1/4W	F
R555	1-247-845-00	CARBON	3.9K	5%	1/6W	
R556	1-212-372-00	METAL OXIDE	10	5%	1W	F
R557	1-246-988-00	CARBON	56	5%	1/8W	F
R558	1-247-867-00	CARBON	33K	5%	1/6W	
R559	1-213-130-00	METAL OXIDE	82	5%	1W	F
R560	1-247-849-00	CARBON	5.6K	5%	1/6W	
R561	⚠1-247-040-00	CARBON	1K	5%	1/8W	F
R562	1-202-826-00	SOLID	4.7K		1/2W	
R601	1-247-855-00	CARBON	10K	5%	1/6W	
R602	1-202-463-00	SOLID	2.2M	5%	1/4W	
R603	1-247-865-00	CARBON	27K	5%	1/6W	
R604	1-247-855-00	CARBON	10K	5%	1/6W	
R605	1-247-879-00	CARBON	100K	5%	1/6W	
R606	1-247-829-00	CARBON	820	5%	1/6W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No.	Part No.	Description				Remark
R607	1-247-825-00	CARBON	560	5%	1/6W	
R608	1-247-889-00	CARBON	270K	5%	1/6W	
R609	1-247-825-00	CARBON	560K	5%	1/6W	
R610	1-247-873-00	CARBON	56K	5%	1/6W	
R611	1-247-891-00	CARBON	330K	5%	1/6W	
R612	1-247-871-00	CARBON	47K	5%	1/6W	
R613	1-247-871-00	CARBON	47K	5%	1/6W	
R614	1-247-819-00	CARBON	330	5%	1/6W	
R615	1-214-597-00	METAL OXIDE	100K	5%	2W	F
R616	1-247-869-00	CARBON	39K	5%	1/6W	
R617	1-247-885-00	CARBON	180K	5%	1/6W	
R618	1-247-879-00	CARBON	100K	5%	1/6W	
R619	1-247-827-00	CARBON	680	5%	1/6W	
R620	1-213-159-00	METAL OXIDE	22K	5%	1W	F
R621	1-205-687-00	CEMENTED	54K	10%	7W	
R622	1-247-805-00	CARBON	82	5%	1/6W	
R623	⚠1-217-465-00	FUSIBLE	0.47	5%	1W	F
R624	⚠1-217-465-00	FUSIBLE	0.47	5%	1W	F
R625	1-247-831-00	CARBON	1K	5%	1/6W	
R626	1-217-193-00	WIREWOUND	0.27	10%	2W	F
R627	1-246-546-00	CARBON	8.2M	10%	1/2W	
R628	1-247-879-00	CARBON	100K	5%	1/6W	
R629	1-247-855-00	CARBON	10K	5%	1/8W	
R630	1-247-829-00	CARBON	820	5%	1/6W	
R631	1-247-840-00	CARBON	2.4K	5%	1/6W	
R632	1-247-855-00	CARBON	10K	5%	1/6W	
R633	1-247-873-00	CARBON	56K	5%	1/6W	
R634	1-247-871-00	CARBON	47K	5%	1/6W	
R636	1-212-974-00	FUSIBLE	47	5%	1/2W	F

VARIABLE RESISTOR

RV301	1-228-724-00	RES, ADJ, CERAMIC CARBON	10K
RV302	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
RV303	1-228-720-00	RES, ADJ, CERAMIC CARBON	1K
RV304	1-228-723-00	RES, ADJ, CERAMIC CARBON	4.7K
RV305	1-228-719-00	RES, ADJ, CERAMIC CARBON	470
RV501	1-228-717-00	RES, ADJ, CERAMIC CARBON	220
RV502	1-224-250-XX	RES, ADJ, METAL GLAZE	2.2K
RV503	1-228-160-11	RES, ADJ, METAL GLAZE	5K
RV504	1-223-102-00	RES, ADJ, WIREWOUND	120
RV601	1-228-721-00	RES, ADJ, CERAMIC CARBON	2.2K

SPARK GAP

SG501	1-519-063-XX	DISCHARGING GAP

TRANSFORMER

T251	⚠1-427-541-11	TRANSFORMER, OUTPUT
T301	1-426-121-00	DAT
T501	1-437-078-00	TRANSFORMER, DRIVE HDT
T502	1-421-268-00	H.PCT
T503	⚠1-439-294-21	TRANSFORMER ASSY, FLYBACK
T601	⚠1-421-582-00	TRANSFORMER, FERRITE LFT
T602	1-446-194-00	TRANSFORMER, CHOPPER DRIVE RDT
T603	1-421-559-00	TRANSFORMER, FERRITE (S.R.T)

THERMISTOR

TH501	1-806-213-00	THERMISTOR TH-90
TH601	1-800-945-00	THERMISTOR S-10K
⚠THP601	1-806-165-00	THERMISTOR (POSITIVE)

CRYSTAL

X301	1-527-345-00	CRYSTAL, OSC

YC MODULE

YCM301	1-235-268-00	MODULE

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♦:	1-611-281-11	H1 BOARD

****

DIODE

D471	8-719-911-19	DIODE 1SS119
D472	8-719-911-19	DIODE 1SS119

RESISTOR

R471	1-247-895-00	CARBON	470K	5%	1/6W
R473	1-214-783-00	METAL	180K	1%	1/4W
R474	1-214-769-00	METAL	47K	1%	1/4W
R475	1-247-845-00	CARBON	3.9K	5%	1/6W

VARIABLE RESISTOR

RV471	1-228-539-00	RES, VAR, CARBON 10K
RV472	1-228-583-00	RES, VAR, CARBON 20K

SWITCH

S471	1-553-329-00	SWITCH, PUSH (MONO KEY)
S472	1-553-329-00	SWITCH, PUSH (MONO KEY)
S473	1-553-329-00	SWITCH, PUSH (MONO KEY)
S474	1-553-329-00	SWITCH, PUSH (MONO KEY)
S475	1-553-329-00	SWITCH, PUSH (MONO KEY)
S476	1-553-329-00	SWITCH, PUSH (MONO KEY)
S477	1-553-329-00	SWITCH, PUSH (MONO KEY)
S478	1-553-329-00	SWITCH, PUSH (MONO KEY)
S479	1-553-329-00	SWITCH, PUSH (MONO KEY)
S481	1-553-329-00	SWITCH, PUSH (MONO KEY)
S482	1-553-329-00	SWITCH, PUSH (MONO KEY)
S483	1-553-329-00	SWITCH, PUSH (MONO KEY)
S484	1-553-329-00	SWITCH, PUSH (MONO KEY)
S485	1-553-329-00	SWITCH, PUSH (MONO KEY)
S486	1-553-329-00	SWITCH, PUSH (MONO KEY)

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

H2 C L S3 S2

Ref.No.	Part No.	Description				Remark
♦:	1-611-282-11	H2 BOARD				
		********				
		SWITCH				
S491	1-552-806-21	SWITCH, PUSH				
**********						
♦:	A-1330-478-A	C BOARD, COMPLETE				
		**********				
	1-526-762-00	SOCKET, CRT				
♦:	4-365-803-00	COVER (MAIN), CV CONTROL				
♦:	4-365-804-00	COVER (REAR LID), CV CONTROL				
		CAPACITOR				
C702	1-102-978-00	CERAMIC	220PF	5%	50V	
C703	1-102-971-00	CERAMIC	82PF	5%	50V	
C704	1-102-971-00	CERAMIC	82PF	5%	50V	
C705	1-102-249-00	CERAMIC	680PF	20%	2KV	
C706	1-129-714-00	FILM	0.01MF	20%	630V	
C720	1-102-155-00	CERAMIC	330PF	20%	2KV	
		COIL				
L701	1-407-681-00	MICRO INDUCTOR 1UH				
L704	1-408-424-00	MICRO INDUCTOR 180UH				
		TRANSISTOR				
Q701	8-729-322-78	TRANSISTOR 2SC2278				
Q702	8-729-322-78	TRANSISTOR 2SC2278				
Q703	8-729-322-78	TRANSISTOR 2SC2278				
		RESISTOR				
R701	1-247-852-00	CARBON	7.5K	5%	1/6W	
R703	1-247-817-00	CARBON	270	5%	1/6W	
R704	1-247-844-00	CARBON	3.6K	5%	1/6W	
R705	1-202-824-00	SOLID	3.3K		1/2W	
R706	1-206-690-00	METAL OXIDE	12K	5%	2W	F
R707	1-247-846-00	CARBON	4.3K	5%	1/6W	
R708	1-247-826-00	CARBON	620	5%	1/6W	
R709	1-247-823-00	CARBON	470	5%	1/6W	
R710	1-247-844-00	CARBON	3.6K	5%	1/6W	
R711	1-202-824-00	SOLID	3.3K		1/2W	
R712	1-206-690-00	METAL OXIDE	12K	5%	2W	F
R713	1-247-846-00	CARBON	4.3K	5%	1/6W	
R714	1-247-826-00	CARBON	620	5%	1/6W	
R715	1-247-823-00	CARBON	470	5%	1/6W	
R716	1-247-844-00	CARBON	3.6K	5%	1/6W	
R717	1-202-824-00	SOLID	3.3K		1/2W	
R718	1-206-690-00	METAL OXIDE	12K	5%	2W	F
R719	1-202-842-51	SOLID	220K		1/2W	
R720	1-202-719-00	SOLID	1M	10%	1/2W	
R722	1-202-848-00	SOLID	680K		1/2W	
R724	1-202-838-00	SOLID	100K		1/2W	
R727	1-247-807-00	CARBON	100	5%	1/6W	
R728	1-247-807-00	CARBON	100	5%	1/6W	
R729	1-247-807-00	CARBON	100	5%	1/6W	
R730	1-202-827-51	SOLID	5.6K		1/2W	
		VARIABLE RESISTOR				
RV701	1-230-105-00	RES, ADJ, CARBON 3.3K				
RV702	1-230-103-00	RES, ADJ, CARBON 2.2K				
RV703	1-230-104-00	RES, ADJ, CARBON 4.7K				
RV704	1-230-103-00	RES, ADJ, CARBON 2.2K				
RV705	1-230-104-00	RES, ADJ, CARBON 4.7K				
RV706	1-230-164-00	RES, ADJ, METAL GLAZE 55M				
RV707	1-226-114-00	RES, ADJ, METAL GLAZE 2.2M				
RV708	1-226-114-00	RES, ADJ, METAL GLAZE 2.2M				
RV709	1-228-724-00	RES, ADJ, CERAMIC CARBON 10K				
**********						
♦:	1-611-284-11	L BOARD				
		*******				
♦:	4-368-119-00	HOLDER, LED				
		DIODE				
LED471	8-719-800-24	DIODE TLR147				
LED472	8-719-812-41	DIODE TLR124				
LED473	8-719-812-43	DIODE TLG124A				
**********						
♦:	1-611-283-11	S3 BOARD				
		********				
♦:	1-557-024-00	CABLE (WITH PIN)				
	1-557-194-11	SOCKET,PAL ANTENNA(WITH CABLE)				
		CAPACITOR				
C901	⚠ 1-102-395-00	CERAMIC	330PF	20%	1.6KV	
C902	⚠ 1-102-395-00	CERAMIC	330PF	20%	1.6KV	
C903	⚠ 1-102-395-00	CERAMIC	330PF	20%	1.6KV	
**********						
♦:	1-610-433-00	S2 BOARD				
		********				
		DIODE				
D481	8-719-924-06	DIODE ERC24-06S				
		RESISTOR				
R481	1-202-824-00	SOLID	3.3K	10%	1/2W	
		RELAY LINE				
RL481	1-515-511-00	RELAY, HIGH FREQUENCY				

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Ref.No.	Part No.	Description	Remark
♣:	A-1355-079-A	S1 BOARD, COMPLETE **********	
♣:	4-365-811-00	CASE (MAIN), SHIELD, VIF	
♣:	4-368-165-02	LID, UPPER, VIF SHIELD CASE	
♣:	4-368-166-01	LID, BOTTOM, VIF SHIELD CASE	

CAPACITOR

C201	1-123-356-00	ELECT	10MF	20%	16V
C202	1-108-389-00	MYLAR	0.1MF	10%	100V
C203	1-108-387-00	MYLAR	0.068MF	10%	100V
C204	1-108-389-00	MYLAR	0.1MF	10%	100V
C205	1-123-356-00	ELECT	10MF	20%	16V
C206	1-123-332-00	ELECT	47MF	20%	16V
C207	1-108-387-00	MYLAR	0.068MF	10%	100V
C208	1-123-356-00	ELECT	10MF	20%	16V
C209	1-102-963-00	CERAMIC	33PF	5%	50V
C210	1-123-356-00	ELECT	10MF	20%	16V
C211	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C212	1-102-963-00	CERAMIC	33PF	5%	50V
C213	1-123-356-00	ELECT	10MF	20%	16V
C214	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C215	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C216	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C217	1-123-609-00	ELECT	0.33MF	20%	50V
C218	1-161-051-00	CERAMIC	0.01MF	10%	50V
C219	1-102-525-00	CERAMIC	68PF	5%	50V
C220	1-161-021-00	CERAMIC	0.047MF	10%	25V
C221	1-123-318-00	ELECT	33MF	20%	16V
C222	1-161-059-00	CERAMIC	0.047MF	10%	50V
C224	1-123-318-00	ELECT	33MF	20%	16V
C225	1-102-824-00	CERAMIC	470PF	5%	50V
C226	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C227	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C228	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C229	1-102-513-00	CERAMIC	18PF	5%	50V
C230	1-102-525-00	CERAMIC	68PF	5%	50V
C231	1-121-705-00	ELECT	2.2MF	30%	25V
C232	1-123-021-00	ELECT	0.47MF	30%	50V
C233	1-108-242-00	MYLAR	0.022MF	10%	50V
C234	1-123-380-00	ELECT	1MF	20%	50V
C235	1-102-523-00	CERAMIC	56PF	5%	50V
C236	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C237	1-102-822-00	CERAMIC	390PF	5%	50V
C238	1-102-525-00	CERAMIC	68PF	5%	50V
C239	1-102-513-00	CERAMIC	18PF	5%	50V
C242	1-123-317-00	ELECT	22MF	20%	16V

FILTER

CF201	1-404-134-00	TRAP, CERAMIC (5.5MHZ)
CF202	1-527-263-00	CERAMIC FILTER (5.5MHZ)
CF203	1-404-473-00	DISCRIMINATOR, CERAMIC

Ref.No.	Part No.	Description	Remark
		DIODE	
D201	⚠8-719-911-19	DIODE 1SS119	
D202	8-719-101-51	DIODE RD5.1E-L3	
		IC	
IC201	8-759-800-12	IC LA7920	
IC202	8-752-001-51	IC CX20015A	
		COIL	
L201	1-407-488-00	MICRO INDUCTOR 470UH	
L202	1-408-397-00	MICRO INDUCTOR 1UH	
L203	1-408-408-00	MICRO INDUCTOR 8.2UH	
L204	1-408-410-00	MICRO INDUCTOR 12UH	
L205	1-408-400-00	MICRO INDUCTOR 1.8UH	
L206	1-408-413-00	MICRO INDUCTOR 22UH	
L207	1-404-465-00	COIL, VIF (MOLD TYPE)	
L208	1-404-465-00	COIL, VIF (MOLD TYPE)	
L209	1-408-424-00	MICRO INDUCTOR 180UH	
		TRANSISTOR	
Q201	8-729-245-83	TRANSISTOR 2SC2458	
Q202	8-765-300-00	TRANSISTOR 2SC2009	
Q203	8-729-204-83	TRANSISTOR 2SA1048-GR	
Q204	8-729-245-83	TRANSISTOR 2SC2458	
		RESISTOR	
R201	1-247-839-00	CARBON 2.2K 5% 1/6W	
R202	⚠1-246-530-00	CARBON 240K 5% 1/4W	
R203	1-247-879-00	CARBON 100K 5% 1/6W	
R204	1-247-879-00	CARBON 100K 5% 1/6W	
R205	1-247-847-00	CARBON 4.7K 5% 1/6W	
R206	1-247-847-00	CARBON 4.7K 5% 1/6W	
R207	1-247-839-00	CARBON 2.2K 5% 1/6W	
R208	1-247-863-00	CARBON 22K 5% 1/6W	
R209	1-247-855-00	CARBON 10K 5% 1/6W	
R210	1-247-891-00	CARBON 330K 5% 1/6W	
R211	1-247-839-00	CARBON 2.2K 5% 1/6W	
R212	1-247-839-00	CARBON 2.2K 5% 1/6W	
R213	1-247-803-00	CARBON 68 5% 1/6W	
R214	1-247-833-00	CARBON 1.2K 5% 1/6W	
R215	1-247-845-00	CARBON 3.9K 5% 1/6W	
R216	1-247-813-00	CARBON 180 5% 1/6W	
R217	1-247-818-00	CARBON 300 5% 1/6W	
R218	1-247-807-00	CARBON 100 5% 1/6W	
R219	1-247-825-00	CARBON 560 5% 1/6W	
R220	1-247-822-00	CARBON 430 5% 1/6W	
R221	1-247-826-00	CARBON 620 5% 1/6W	
R222	1-247-843-00	CARBON 3.3K 1/6W	
R223	1-247-847-00	CARBON 4.7K 5% 1/6W	
R224	1-247-883-00	CARBON 150K 5% 1/6W	
R225	1-247-805-00	CARBON 82 5% 1/6W	
R226	1-247-841-00	CARBON 2.7K 5% 1/6W	
R227	1-247-831-00	CARBON 1K 5% 1/6W	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

S1 Z N

Ref.No.	Part No.	Description				Remark
R228	1-247-871-00	CARBON	47K	5%	1/6W	
R229	1-247-857-00	CARBON	12K	5%	1/6W	
R230	1-247-857-00	CARBON	12K	5%	1/6W	
R232	1-247-863-00	CARBON	22K	5%	1/6W	
R233	1-247-839-00	CARBON	2.2K	5%	1/6W	
R234	1-247-828-00	CARBON	750	5%	1/6W	
R235	1-247-831-00	CARBON	1K	5%	1/6W	
R236	1-247-829-00	CARBON	820	5%	1/6W	
R237	1-247-783-00	CARBON	10	5%	1/8W	F
R238	1-214-714-51	METAL	240	1%	1/4W	
R239	1-214-134-00	METAL	1.2K	1%	1/4W	
		VARIABLE RESISTOR				
RV201	1-228-723-00	RES, ADJ, CERAMIC CARBON 4.7K				
		CONNECTOR				
S1	♦:1-560-127-00	PLUG, CONNECTOR (2.5MM) 7P				
S2	♦:1-560-128-00	PLUG, CONNECTOR (2.5MM PITCH) 8P				
		FILTER				
SF201	⚠ 1-404-433-00	SAWF				
	♦:4-336-029-00	PLATE, SHIELD; SF201				
		TRASNFORMER				
T201	1-404-465-00	COIL, VIF (MOLD TYPE)				
T204	1-404-465-00	COIL, VIF (MOLD TYPE)				
		TUNER				
TU201	⚠ 1-463-421-21	TUNER, ET (BT-883)				

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	♦:1-611-285-11	Z BOARD				
		*******				
		JACK				
EJ901	1-507-864-00	JACK, EARPHONE				

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	♦:1-606-794-00	N BOARD				
		*******				
	♦:1-556-332-00	CONNECTOR ASSY (2.5MM) 3P				
	♦:4-342-117-00	CASE, SHIELD (MAIN), R				
	♦:4-342-118-00	LID, SHIELD CASE, R				
		CAPACITOR				
C1	1-123-617-00	ELECT	10MF	20%	16V	
C2	1-123-617-00	ELECT	10MF	20%	16V	
C3	1-123-617-00	ELECT	10MF	20%	16V	
C4	1-161-019-00	CERAMIC	0.033MF	10%	25V	
C5	1-108-567-00	MYLAR	0.0033MF	5%	50V	
C6	1-123-821-00	ELECT	47MF	20%	16V	
		DIODE				
D1	8-719-110-32	DIODE PH302B				
		IC				
IC1	8-759-113-73	IC UPC1373H				
		COIL				
L1	1-404-310-00	COIL 4.7mH				

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		MISCELLANEOUS	
		*************	
	1-452-277-00	MAGNET, BMC	
	⚠ 1-451-230-00	DEFLECTION YOKE (SY-125)	
	1-452-032-00	MAGNET, DISK; 10MM	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
	1-501-152-00	ROD ANTENNA,TYPE B	
	♦:1-507-900-00	JACK	
	⚠ 1-536-683-00	CONNECTOR, COAXIAL ANTENNA	
	⚠ 1-551-908-31	CORD, POWER, EULO PLUG	
	♦:1-556-565-21	CABLE (PAL.PIN)	
	♦:1-557-024-00	CABLE (WITH PIN)	
	♦:1-557-056-00	CABLE, P-P	
	1-557-194-11	SOCKET, PAL ANTENNA (WITH CABLE)	
C905	1-161-491-00	CAP, CERAMIC 470PF	
L901	⚠ 1-426-145-00	COIL, DEGAUSSING	
L902	⚠ 1-426-145-00	COIL, DEGAUSSING	
S901	⚠ 1-553-225-00	SWITCH, PUSH	
SP901	1-503-239-00	SPEAKER	
V901	⚠ 8-735-550-05	CRT (A34JBU00X)	

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ACCESSORIES AND PACKING MATERIALS
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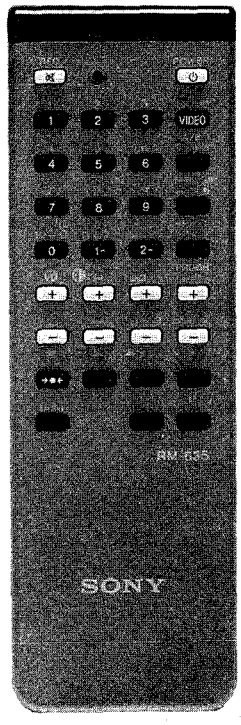
Part No.	Description	Remark
A-1470-625-A	COMMANDER ASSY (RM-635)	
1-504-034-72	MAGNETIC EARPHONE ME-20	
3-701-631-00	BAG, POLYETHYLENE	
4-314-534-00	BAG, POLYETHYLENE	
4-368-140-00	CUSHION (UPPER) (ASSY)	
4-368-141-00	CUSHION (LOWER) (ASSY)	
4-368-147-00	INDIVIDUAL CARTON	
4-493-831-11	MANUAL, INSTRUCTION	

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

RM-635

SERVICE MANUAL



SPECIFICATIONS

Remote control system	Infrared control
Power requirements	3 V dc 2 batteries IEC Designation R03 (size AAA)
Dimensions	Approx. 54 × 16 × 165 mm (w/h/d)
Weight	Approx. 100 g including batteries
Supplied accessory	Battery IEC Designation R03 (2 pcs.)

REMOTE COMMANDER

SONY®

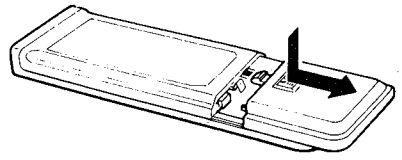
ACC

1. REMOTE CONTROL OPERATION — with the supplied RM-635 Remote Commander

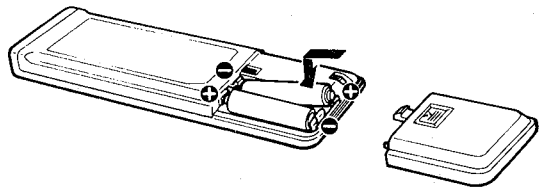
BATTERY INSTALLATION

The Sony RM-635 Remote Commander operates on two supplied IEC designation R03 batteries (size AAA).

1 Remove the battery compartment lid



2 Insert batteries observing the correct polarity and close the lid.



NOTES ON THE REMOTE COMMANDER

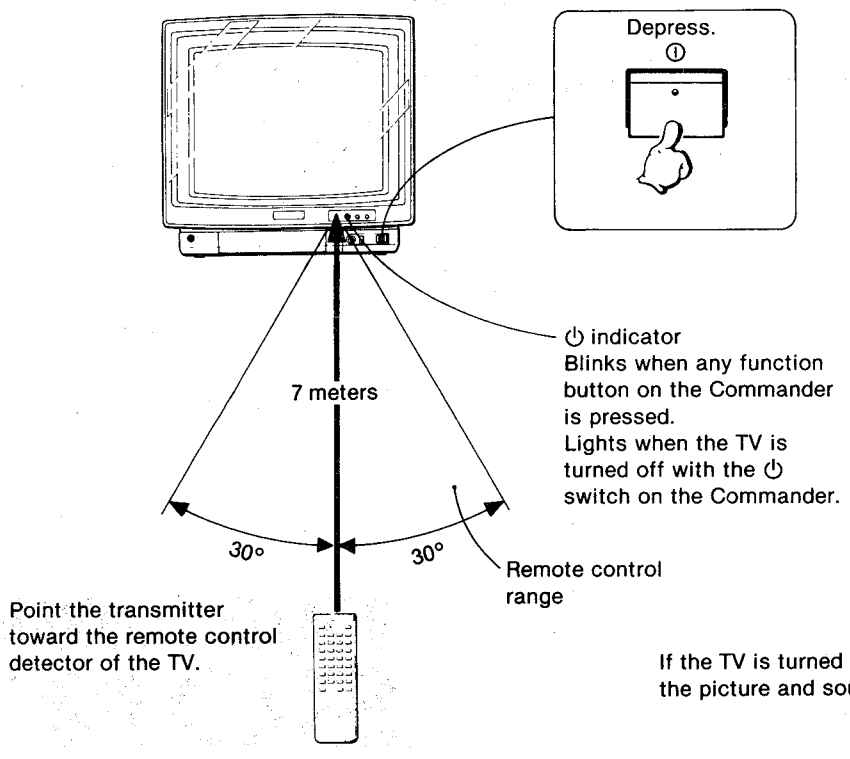
- In normal use, battery life is up to half a year. When the batteries are exhausted, the Commander will not operate the TV properly. If this happens, replace both batteries with new ones.
- When the Commander is not used for a long period of time, remove the batteries to avoid damage from possible battery leakage.
- Keep the Commander away from extremely hot or humid places.
- Avoid dropping any foreign object into the cabinet, particularly when replacing batteries.

FUNCTION OF THE BUTTONS ON THE REMOTE COMMANDER

Each button has different functions for normal TV and VTR operations.
Functions for operating the TV are indicated **in black or white.**
Functions for operating the video tape recorder* are indicated in **brown.**
Functions for teletext operation using the optional OPK-103 teletext adaptor are indicated **in green.**

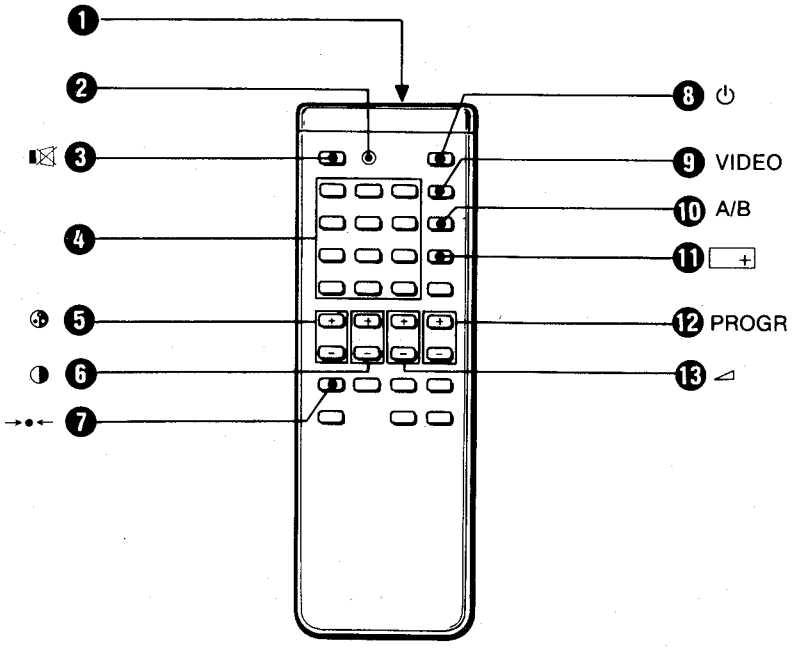
* This Remote Commander can control the Sony SL-F1E combined with the TT-F1 series tuner timer unit, and Sony SL-C9 series.

REMOTE TV OPERATION


Depress.
⏻
⏻ indicator
Blinks when any function button on the Commander is pressed.
Lights when the TV is turned off with the ⏻ switch on the Commander.
7 meters
30°
30°
Remote control range
Point the transmitter toward the remote control detector of the TV.

If the TV is turned off with the Remote Commander (standby mode), the picture and sound settings will be memorized.

Buttons used for normal TV operations



❶ Transmitter
Point toward the remote control detector.

❷ Pilot lamp
Blinks when the Remote Commander is operating.
If the lamp does not light when the button is pressed, battery replacement is required.

❸ (sound mute) button
When you want to mute the sound (to answer the telephone, for instance) press this button. To restore the sound, press this button again.

❹ Program number buttons
Programs are selected by pressing the corresponding numbers.
For programs 1 through 9, press the appropriate single-digit button.
For programs 10 through 19, first press the [1–] button, then the button corresponding to the last digit of the program number.

For example: for program 10, press [1–] and [0] .
for program 11, press [1–] and [1] .

Similarly, for programs 20 to 29, press the [2–] buttons and then the single-digit button.
For program 30, press the [0] button.

Note: If you do not press a single-digit button within several seconds after pressing the [1–] or [2–] button, the previous program setting will be automatically recalled.

❺ (color) buttons
Adjust the color intensity. Press the + button to increase it, or the – button to decrease it.

❻ (picture) buttons
Function the same as the ◑ buttons on the TV. Press the + button to increase the picture contrast, or the – button to decrease it.

❼ →•← (normal) button
Pressing this button once instantly returns the color and contrast settings made with the ◑ and buttons on the Commander to the factory preset levels.

❽ ⏻ (standby) switch
Turn the TV in standby mode. The ⏻ indicator on the TV will light up. To turn on the TV from the standby mode, press a program number button or →•← button on the Commander.

❾ VIDEO button
This button is not usable for this TV.
When this button is pressed, "AU" will momentarily light on the TV screen, but will immediately disappear.

❿ A/B button
This button is not usable for this TV.

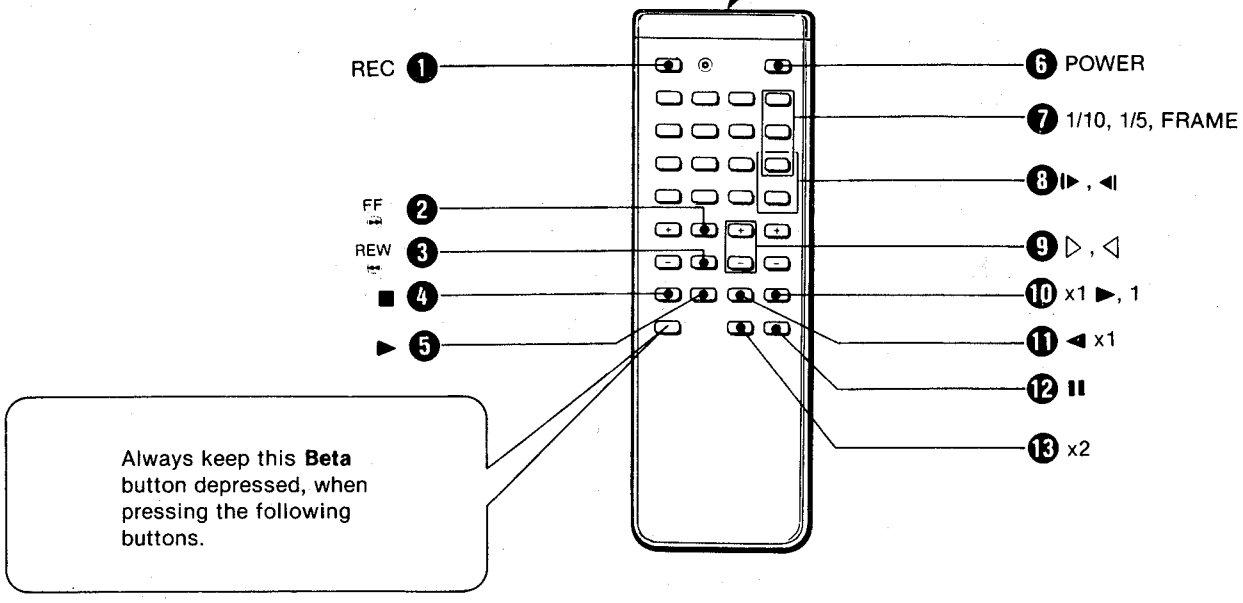
⓫ [+] (display) button
Press this button to extinguish the program number. Then, each time you press the PROGR button to change the program, the indications on the screen will disappear in a few seconds. To display, press again.

⓬ PROGR (program) buttons
Function the same as the PROGR buttons on the TV.

⓭ (volume) buttons
Adjust the volume. Press the + button to increase the volume, or the – button to decrease it.

Buttons used for VTR operations

Transmitter
To operate the VTR, point the transmitter toward the remote control detector of the VTR (SL-C9 series) or the tuner timer unit (TT-F1 series).



Buttons which have the same functions for both SL-C9 series and SL-F1E

❶ REC (record) button
Press to start recording.

❷ FF (fast-forward) button
Press to advance the tape rapidly. This button is also used for the forward picture-search operation.

❸ REW (rewind) button
Press to rewind the tape. This button is also used for the reverse picture-search operation.

❹ ■ (stop) button
Press to stop the tape.

❺ ▶ (play) button
Press to play the tape back.

❻ POWER switch
Press to turn the video tape recorder (and the tuner timer unit) on or off.

⓬ ❚❚ (pause) button
Functions the same as the ❚❚ PAUSE button on the SL-C9 series and the PAUSE button on the SL-F1E. To release the pause mode, press this button again.

⓭ x2 (double-speed) button
Functions the same as the x2 button on the video tape recorder. Press to obtain a double-speed playback picture.

Buttons used for the SL-C9 series

❼ Speed control buttons (1/10, 1/5, FRAME)
Function the same as the 1/10, 1/5 and FRAME of the SPEED CONTROL buttons on the recorder.

❾ ▷ (forward) and ◁ (reverse) buttons
Select the direction of the speed control playback. Function the same as the ▷ and ◁ buttons of the SPEED CONTROL buttons on the recorder.

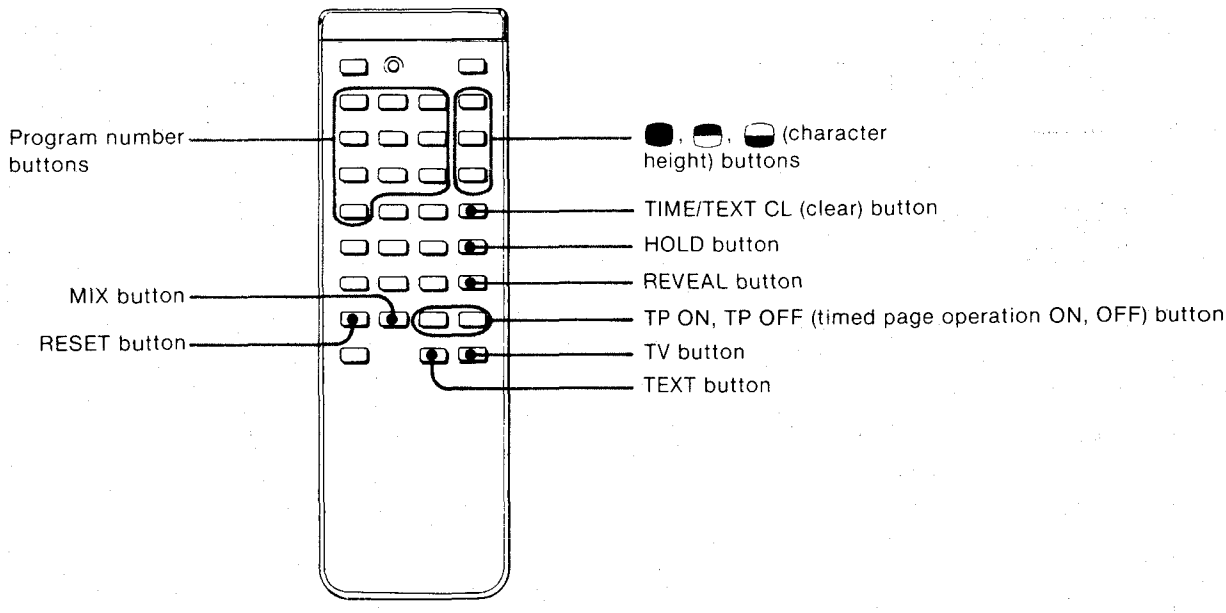
❿ 1 (normal speed) button
Functions the same as the 1 button of the SPEED CONTROL buttons on the recorder.

Buttons used for the SL-F1E

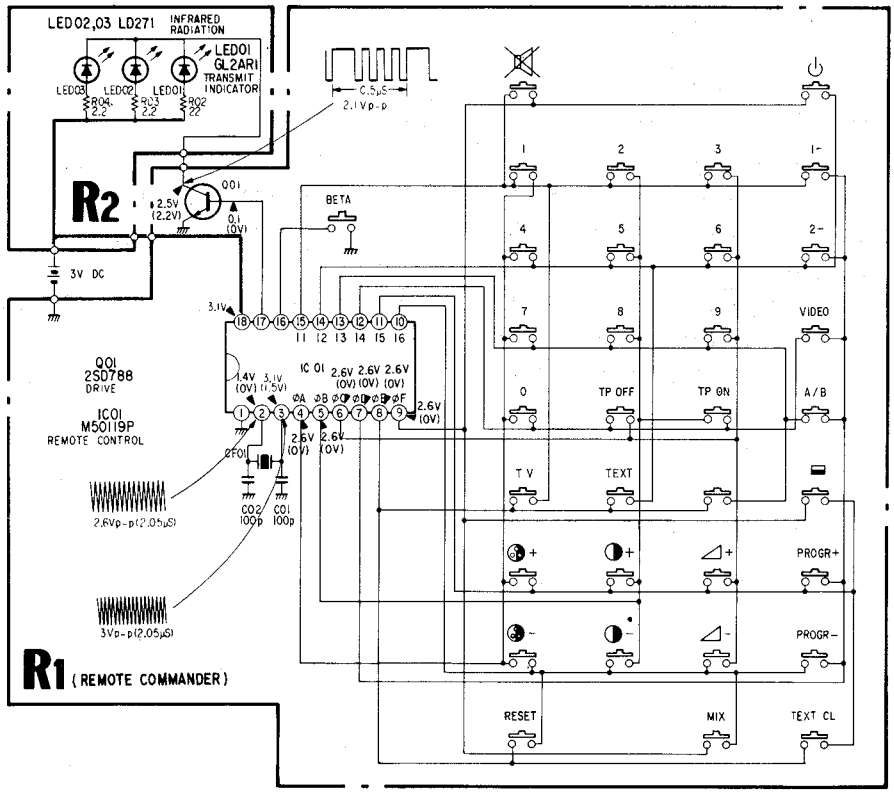
❽ |▶ (forward slow motion) and ◀| (reverse slow motion) buttons
Function the same as the |▶ and ◀| SWING SEARCH buttons on the SL-F1E.

❿ x1 ▶ (forward) button and ⓫ ◀ x1 (reverse) button
Function the same as the ▶ and ◀ SWING SEARCH buttons on the SL-F1E.

Buttons used for telectext operations
The following functions can be operated by installing the optional Sony OPK-103 teletext adaptor. For details, please read the instruction manual of the teletext adaptor.



2. SCHEMATIC DIAGRAM



MODE \ IC PIN	10	11	12	13	14	15	16	17
⏻	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
🔇	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
1	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
2	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
3	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
4	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
5	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
6	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
7	3.1	3.1	3.1	2.6	3.1	3.1	3.1 (0.15)	0
8	3.1	3.1	3.1	2.6	3.1	3.1	3.1 (0.15)	0
9	3.1	3.1	3.1	2.6	3.1	3.1	3.1 (0.15)	0
0	3.1	3.1	2.6	3.1	3.1	3.1	3.1 (0.15)	0
1-	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
2-	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
VIDEO	3.1	3.1	2.6	3.1	3.1	3.1	3.1 (0.15)	0
TP OFF	3.1	3.1	2.6	3.1	3.1	3.1	3.1 (0.15)	0.2
TP ON	3.1	3.1	2.6	3.1	3.1	3.1	3.1 (0.15)	0.2
A/B	3.1	3.1	3.1	2.6	3.1	3.1	3.1 (0.15)	0.2
TV	3.1	3.1	3.1	3.1	3.1	2.6	3.1 (0.15)	0
TEXT	3.1	3.1	3.1	3.1	2.6	3.1	3.1 (0.15)	0
VIEWDATA	3.1	3.1	3.1	2.6	3.1	3.1	3.1 (0.15)	0
▬	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◐ +	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◐ −	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◑ +	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◑ −	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◿ +	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
◿ −	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
PROGR +	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
PROGR −	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2
RESET	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0
MIX	2.6	3.1	3.1	3.1	3.1	3.1	3.1 (0.15)	0
TEXT CL	3.1	2.6	3.1	3.1	3.1	3.1	3.1 (0.15)	0.2

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All resistors are in ohms, 1/6W unless otherwise noted. kΩ = 1000Ω, MΩ = 1000kΩ
- Voltages and waveform are for when [A/B] button is pressed.
- Voltages in ( ) are taken with button not pressed.
- All voltages are in V.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- ——— : B + bus

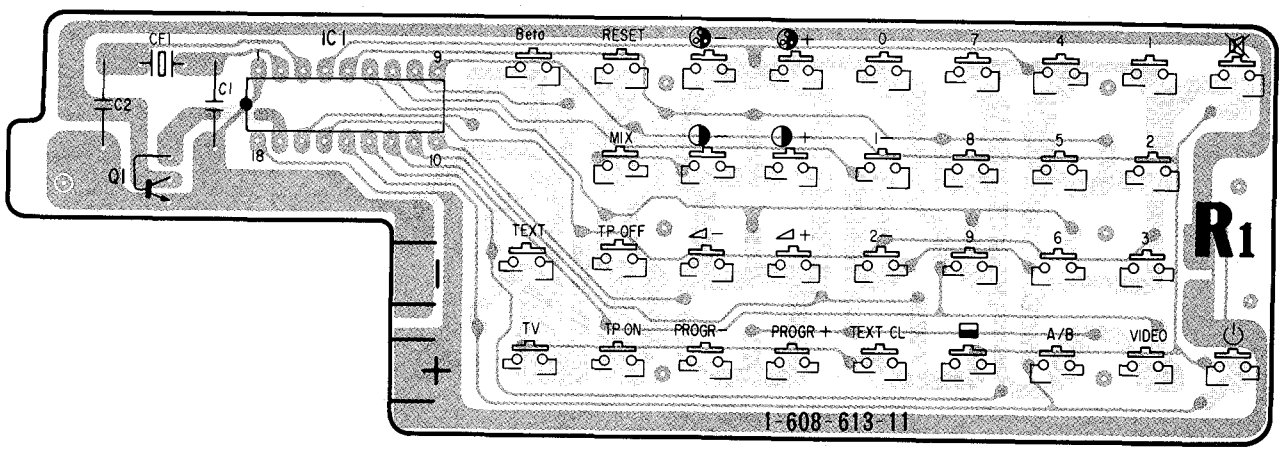
3. PRINTED WIRING BOARDS

– Conductor Side –

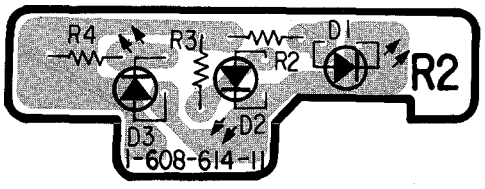
A B C D

1 2 3 4 5

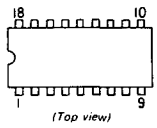
– R1 Board –



– R2 Board –



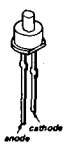
M50119P



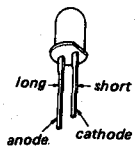
2SC1474
2SD788

2SD773

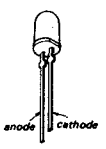
GL-2AR1



LD271



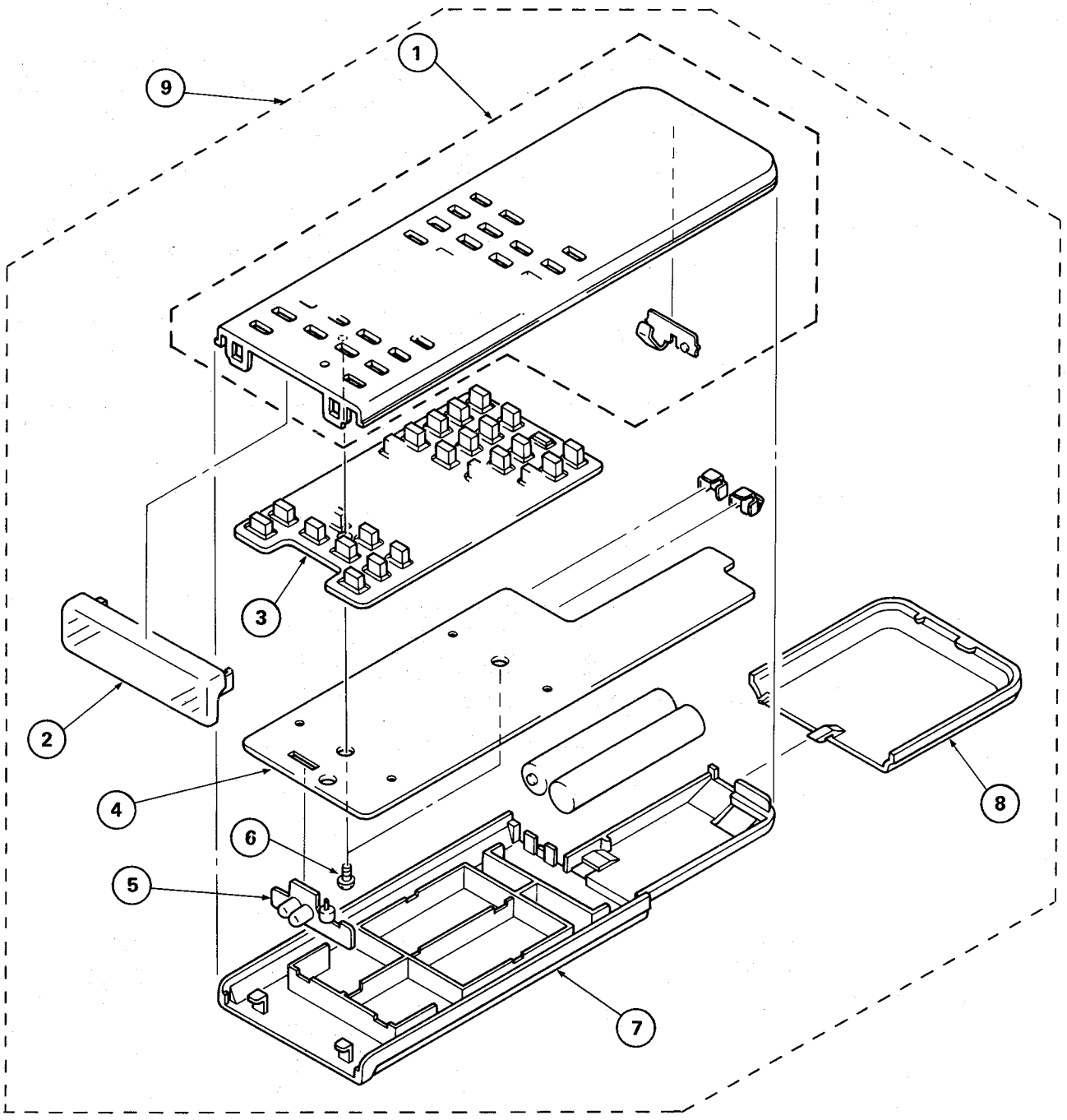
SE303A
SE303AX
SE303AY



4. EXPLODED VIEW

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remark
1	X-4362-211-0	CASE (UPPER) ASSY, COMMANDER	
2	4-361-943-00	PANEL, FRONT, COMMANDER	
3	4-361-944-21	SHEET, RUBBER	
4	♦:1-608-613-00	R1 BOARD	
5	♦:1-608-614-00	R2 BOARD	
6	4-356-741-00	SCREW, TAPPING (BIND 2X5)	
7	4-361-948-00	CASE (LOWER), COMMANDER	
8	4-361-945-00	COVER, BATTERY	
9	A-1470-625-A	COMMANDER ASSY (RM-635)	1-8

R1 R2

5. ELECTRICAL PARTS LIST

- Items marked " ♦ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

When indicating parts by reference number, please include the board name.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

CAPACITORS
• MF : μF, PF : μμF

RESISTORS
• All resistors are in ohms
• F : nonflammable

COILS
• MMH : mH, UH : μH

Ref.No.	Part No.	Description				Remark
	♦:1-608-613-00	R1 BOARD ********				
	4-348-542-00	TERMINAL (A), BATTERY				
	4-348-543-00	TERMINAL (B), BATTERY				
		CAPACITOR				
C01	1-161-315-00	CERAMIC	220PF	10%	50V	
C02	1-161-315-00	CERAMIC	220PF	10%	50V	
		FILTER				
CF01	1-527-476-00	OSCILLATOR, CERAMIC				
		IC				
IC01	8-759-600-07	IC M50119P				
		TRANSISTOR				
Q01	8-729-378-84	TRANSISTOR 2SD788				
**********						
	♦:1-608-614-00	R2 BOARD ********				
		DIODE				
D01	8-719-900-23	DIODE GL-2AR1				
LED02	8-719-107-82	DIODE SE303AY				
LED03	8-719-107-82	DIODE SE303AY				
		RESISTOR				
R02	1-247-791-00	CARBON	22	5%	1/6W	
R03	1-247-767-00	CARBON	2.2	5%	1/6W	
R04	1-247-767-00	CARBON	2.2	5%	1/6W	